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Counteracting food losses and food waste as an instrument for implementing the right to adequate food and sustainable food security in international law

La riduzione delle perdite e dello spreco alimentare
quale strumento di attuazione del diritto a un'alimentazione
adeguata e della sicurezza alimentare sostenibile
nel diritto internazionale

This article aims to determine whether and to what extent reducing food losses and waste may be considered as an effective means of implementing the right to adequate food and sustainable food security in international law. The analysis examines the evolution of the right to food and the concepts of food security and food sovereignty, as well as international instruments and programmes, including the 2030 Agenda for Sustainable Development. The author demonstrates that food losses and waste may weaken food availability, access to food, the stability of food systems, and the implementation of the principle of sustainable development. The author concludes that reducing food losses and waste should be understood as a measure that supports the realisation of the right to food and sustainable food security, particularly when accompanied by broader systemic changes.

Keywords: food waste, food loss, right to food, food security, food sovereignty

Il presente contributo si propone di verificare se, e in quale misura, la riduzione delle perdite e dello spreco alimentare possa essere considerata uno strumento efficace ai fini dell'attuazione del diritto a un'alimentazione adeguata e della sicurezza alimentare sostenibile nel diritto internazionale. L'indagine si articola nell'esame dell'evoluzione del diritto al cibo, delle nozioni di sicurezza alimentare e di sovranità alimentare, nonché dei principali strumenti e programmi internazionali, ivi inclusa l'Agenda 2030 per lo sviluppo sostenibile. L'Autore dimostra che le perdite e lo spreco alimentare siano suscettibili di incidere negativamente sulla disponibilità degli alimenti, sull'accesso agli stessi, sulla stabilità dei sistemi alimentari

e sull'attuazione del principio di sviluppo sostenibile. In sede conclusiva, l'Autore sostiene, tra l'altro, che la riduzione delle perdite e dello spreco alimentare dovrebbe essere qualificata quale strumento finalizzato al rafforzamento dell'effettività del diritto al cibo e della sicurezza alimentare sostenibile, in particolare laddove accompagnata da interventi sistemici di più ampia portata.

Parole chiave: perdite e spreco alimentare, diritto al cibo, sicurezza alimentare, sovranità alimentare, sviluppo sostenibile

1. After the Second World War, the problem of hunger and malnutrition was usually framed in terms of insufficient food supply. Consequently, the actions of individual States and international organisations focused mainly on increasing agricultural production, improving productivity and ensuring stable food supplies. Over time, however, it became clear that even an increased production and the emergence of food surpluses do not automatically lead to the elimination of hunger, since its scale is also co-determined by poverty, social inequalities and actual access to food.¹ Against this background, contemporary concepts of the right to food, food security, food sovereignty and sustainable development gradually emerged, and they constitute an important point of reference for the analysis and assessment of the phenomenon of food waste.

In the twentieth century, historic milestones in social welfare and socio-economic development² were reached. Increasingly, however, attention is drawn today to the fact that the world is facing epochal food-related problems arising from geopolitical events, climate crises and social divisions, the frequency of which will intensify because of the multiplicity of the factors that determine them.³ Meanwhile, the current food system, far from ensuring a world free from hunger and malnutrition, continues to display significant deficiencies.⁴ The contemporary socio-economic model reveals a reality of

¹ J.P. Pachón, M. Medina-Moreno, F.A. Pachón-Arizab, *El hambre: abordaje desde la seguridad alimentaria hasta el derecho a la alimentación*, "Gestión y Ambiente" 2018, no. 2, p. 294.

² J.A. Martínez Navarro, *El derecho a la alimentación y el deber sobre los desperdicios alimentarios*, "Revista CESCO de Derecho de Consumo" 2024, no. 50, p. 30.

³ L. Scaffardi, *La sicurezza alimentare ovvero come il "diritto a togliersi la fame" evolve in un mondo che cambia*, "DPCE Online" 2023, vol. 59, no. 2, p. 2167.

⁴ J.A. Martínez Navarro, *El derecho a la alimentación...*, p. 30.

extremes, in which one part of the world's population remains exposed to a real risk of food shortages and food insecurity, while another part enjoys abundance, resulting in substantial quantities of wasted food.⁵ This dual reality reveals an economically inefficient food system.

It should be emphasised that the problem of hunger and malnutrition, despite periodic changes in its scale, remains current. Whereas earlier studies indicated that more than 800 million people, and therefore more than 10% of the world's population, suffered from undernourishment,⁶ according to the most recent estimates in 2024 approximately 673 million people experienced hunger, which accounts for about 8.3% of the world's population.⁷ Food poverty is increasing in industrialised⁸ and developed countries, and this problem is particularly acute among the most vulnerable social groups – the elderly, the unemployed, the poor, the sick, immigrants, as well as within families and among children.⁹

From this perspective, it is important to demonstrate that the contemporary understanding of the right to food remains closely linked to the obligation to pursue public policies conducive to reducing food waste treated as one of the instruments for implementing food security and the principle of sustainable development. The aim of this article is therefore to answer the question whether, and to what extent, reducing food losses and food waste may be regarded as an effective instrument for implementing the right to food and sustainable food security. Achieving this aim requires an analysis of the concepts of the right to food, food security and food sovereignty, as well as of legal instruments and programmes adopted at the international level.

⁵ M. Ramajoli, *Dalla food safety alla food security e ritorno*, "Amministrare" 2015, no. 2–3, p. 277.

⁶ J.P. Pachón, M. Medina-Moreno, F.A. Pachón-Arizab, *El hambre...*, pp. 291–292; A. Vergara-Romero, R. Sorhegui-Ortega, C. Salvador-Guerra, *La soberanía alimentaria en el desarrollo local*, "Revista de la Universidad del Zulia" 2021, no. 32, p. 55; J. Barna, M. Excoffier, *Food Security in a Just Food System*, "Rivista di diritto agrario" 2013, no. 4, p. 306; M.Á.M. López, *El derecho a la alimentación ante los riesgos del futuro*, "Araucaria. Revista Iberoamericana de Filosofía, Política y Humanidades" 2016, no. 36, p. 296.

⁷ FAO, IFAD, UNICEF, WFP and WHO, *The State of Food Security and Nutrition in the World 2025 – Addressing High Food Price Inflation for Food Security and Nutrition*, UNICEF Data, <https://data.unicef.org/resources/sofi-2025/> [accessed on 28.03.2026].

⁸ R. Paltrinieri, P. Parmiggiani, *Riduzione dello spreco alimentare, sostenibilità e inclusione sociale*, in: R. Paltrinieri, P. Parmiggiani (eds.), *Pratiche di riduzione dello spreco alimentare e inclusione sociale*, Milano 2018, p. 13.

⁹ L. Giacomelli, *Diritto al cibo e solidarietà. Politiche e pratiche di recupero delle eccedenze alimentari*, "Osservatorio costituzionale" 2018, no. 1, p. 3.

2. One of the first instruments of international law that imposes an obligation on States to raise the standard of living of their citizens is the Charter of the United Nations.¹⁰ Articles 55 and 56 of the Charter of the United Nations provide not only for non-interference, but also for an obligation of States to cooperate in promoting peace that may be achieved through social development, ascertainment of welfare and protection of human rights of which an indispensable element is the right to food. Although the Charter itself does not expressly establish a “right to food,” it nevertheless constitutes a specific foundation and starting point for the subsequent formation and formulation of that right. These provisions are therefore of significant importance for the implementation of the right to food, as confirmed, *inter alia*, by the FAO in the Voluntary Guidelines to support the progressive realisation of the right to adequate food in the context of national food security.¹¹

The “right to food” itself was expressly recognised only later. One of the first political and legal achievements in the fight against hunger was the inclusion of this issue in the United Nations Universal Declaration of Human Rights¹² adopted by the General Assembly on 10 December 1948.¹³ Article 1 of the Declaration states that all human beings are born free and equal in dignity and rights; are endowed with reason and conscience; and should act towards one another in a spirit of brotherhood. This reveals the fundamental idea of the inviolable rights of the human person, both as an individual and within the social groups in which human personality is expressed, including the right to an adequate standard of living, also encompassing adequate food that constitutes a basic premise of life in conditions of freedom and dignity.¹⁴

Pursuant to Article 25(1) of the Declaration, everyone has the right to a standard of living adequate for the health and well-being of himself and of

¹⁰ Charter of the United Nations, signed in San Francisco on 26 June 1945 (Journal of Laws of 1947, No. 23, item 90).

¹¹ Food and Agriculture Organization of the United Nations (FAO), *Voluntary Guidelines to support the progressive realization of the right to adequate food in the context of national food security*, Rome 2005, p. 4, <https://www.fao.org/4/y7937e/y7937e00.pdf> [accessed on 27.03.2026].

¹² Universal Declaration of Human Rights, adopted and proclaimed by United Nations General Assembly resolution 217 A (III) of 10 December 1948, A/RES/217(III).

¹³ L. Costato, P. Borghi, *Diritto al cibo, agricoltura e prodotti agroalimentari nella prospettiva globale e nei trattati europei*, in: P. Borghi, I. Canfora, A. Di Lauro, L. Russo (ed.), *Trattato di diritto alimentare italiano e dell'Unione europea*, Milano 2024, p. 8.

¹⁴ F. Alicino, *Right to Food and Food Security: A Comparative Perspective*, in: C. Caporale, I.R. Pavone, M.P. Ragionieri (eds.), *International Food Law. How Food Law can Balance Health, Environment and Animal Welfare*, Alphen aan den Rijn 2021, p. 171.

his family, including food, clothing, housing, medical care and necessary social services, and the right to security in the event of unemployment, sickness, disability, widowhood, old age or other lack of livelihood in circumstances beyond his control. It follows from this provision that the right to food is one element of the right to a standard of living adequate for the health and well-being of the individual and his or her family, and that the protection of this human right is effective only when all the elements constituting its content are guaranteed.¹⁵ Human rights are interdependent, indivisible and interrelated. The right to food is therefore a multidisciplinary and cross-cutting right.¹⁶ Deprivation of this right may affect other fundamental rights, such as the right to life, physical integrity and personal dignity. Similarly, freedom, equal opportunities, participation in public life, education and health protection cannot be fully realised if people do not have full access to food and if their basic needs are not met.¹⁷

An important step towards recognising the right to food as a human right was its express inclusion in the International Covenant on Economic, Social and Cultural Rights.¹⁸ The formulations contained in Article 25 of the Declaration, which had a significant influence on the shaping of social security systems in many Western States after the Second World War, were incorporated and developed in the Covenant.¹⁹ Pursuant to Article 11(1) of the Covenant, States recognised the right of everyone to a standard of living that ensures adequate conditions of existence for that person and his or her family, including in particular access to food, clothing and housing, as well as the possibility of continuously improving living conditions. The realisation of this right was linked to the obligation of States to take appropriate measures, and the importance of voluntary international cooperation was indicated although not imposed. Article 11(2), in turn, expressly highlights the right to freedom from hunger as the fundamental dimension of the right to food. In this respect, States undertook to take, individually and in cooperation

¹⁵ A. Corini, *Human right to food: some reflections*, in: L. Escajedo San-Epifanio, M. de Renobales Scheifler (eds.), *Envisioning a Future without Food Waste and Food Poverty: Societal Challenges*, Wageningen 2015, p. 318.

¹⁶ J.A. Martínez Navarro, *El derecho a la alimentación...*, p. 34.

¹⁷ Ibid.

¹⁸ International Covenant on Economic, Social and Cultural Rights, opened for signature in New York on 19 December 1966 (Journal of Laws of 1977, No. 38, item 169); F. Girinelli, *The right to food and the implementation strategies*, in: S. Mancuso (ed.), *Law and Food. Regulatory Recipes of Culinary Issues*, London – New York 2021, p. 76.

¹⁹ L. Giacomelli, *Diritto al cibo...*, p. 5; L. Costato, P. Borghi, *Diritto al cibo...*, p. 8.

with other States, the necessary measures, including specific programmes aimed at improving the production, storage and distribution of food. These measures should be based on the use of scientific and technical knowledge, the dissemination of principles of proper nutrition, and the development or reform of agrarian systems in a manner enabling the efficient use of natural resources. The Covenant also points to the need for an equitable distribution of world food resources, adapted to actual needs and taking into account the situation of both food-importing and food-exporting States.

These provisions therefore formulate not only the right to an adequate standard of living, but also establish specific obligations of the States Parties to the Covenant, the purpose of which is to ensure effectively the enjoyment of the right to food and other related rights, such as the right to freedom from hunger and the need to ensure the equitable distribution of food in the world.²⁰ It should be noted that two years earlier, on 16 November 1974, the Universal Declaration on the Eradication of Hunger and Malnutrition²¹ was adopted at the World Food Conference in Rome; it stated that increasing food production and a more appropriate distribution of resources are key elements in the fight against hunger and malnutrition, which is a common responsibility of the international community.²²

Among other legal instruments recognising the right to food, reference should also be made to the Convention on the Elimination of All Forms of Discrimination against Women of 18 December 1979 (CEDAW),²³ the Convention on the Rights of the Child of 20 November 1989 (CRC)²⁴ and the Convention on the Rights of Persons with Disabilities of 13 December 2006 (CRPD).²⁵

²⁰ A. Corini, *Human right to food...*, p. 318.

²¹ Universal Declaration on the Eradication of Hunger and Malnutrition, adopted by the World Food Conference in Rome on 16 November 1974, endorsed by United Nations General Assembly resolution 3348 (XXIX) of 17 December 1974, A/RES/3348(XXIX).

²² F. Alicino, *Right to Food and Food Security...*, p. 172.

²³ Convention on the Elimination of All Forms of Discrimination against Women, adopted by the United Nations General Assembly on 18 December 1979 (Journal of Laws of 1982, No. 10, item 71; hereinafter: CEDAW), entered into force on 3 September 1981.

²⁴ Convention on the Rights of the Child, adopted by the United Nations General Assembly on 20 November 1989 (Journal of Laws of 1991, No. 120, item 526; hereinafter: CRC), entered into force on 2 September 1990.

²⁵ Convention on the Rights of Persons with Disabilities, done at New York on 13 December 2006 (Journal of Laws of 2012, item 1169; hereinafter: CRPD), entered into force on 3 May 2008.

Although CEDAW does not formulate a general right to food, Article 12(2) expressly obliges States Parties to ensure adequate nutrition for women during pregnancy and lactation, while Article 14(2)(h) CEDAW requires the States to take all appropriate measures to eliminate discrimination against women in rural areas, and promote the observance of the principle of equality of men and women to ensure women's participation in and benefit from rural development and, in particular, to ensure to them the right to enjoy adequate living conditions, particularly in relation to housing, sanitation, electricity and water supply, transport and communications.

Also in the Convention on the Rights of the Child, the right to food is expressed indirectly through provisions concerning the health of the child, the combating of malnutrition and ensuring an adequate standard of living. In Article 24(1), first sentence CRC, States Parties recognise the right of the child to the enjoyment of the highest attainable standard of health and to facilities for the treatment of illness and rehabilitation of health, while in Article 24(2)(c) CRC they undertake to pursue full implementation of this right and, in particular, to take necessary measures to combat disease and malnutrition, including within the framework of primary health care, through, *inter alia*, the application of readily available technology and through the provision of adequate nutritious foods and clean drinking water, taking into consideration the dangers and risks of environmental pollution. Article 27(3) CRC provides that States Parties, in accordance with national conditions and within their means, shall take appropriate measures to assist parents and other parties responsible for the child to implement this right and shall, in case of need, provide material assistance and support programmes, particularly with regard to nutrition, clothing and housing.

The CRPD, in turn, recognises the right to food *expressis verbis*. Article 28(1) CRPD provides that States Parties recognise the right of persons with disabilities to an adequate standard of living for themselves and their families, including adequate food, clothing and housing, and to the continuous improvement of living conditions, and shall take appropriate steps to safeguard and promote the realisation of these rights without discrimination on the basis of disability. Pursuant to Article 25(f) CRPD, States Parties recognise that persons with disabilities have the right to the enjoyment of the highest attainable standard of health without discrimination on the basis of disability. States Parties shall take all appropriate measures to ensure access for persons with disabilities to health services that are gender-sensitive, including health-related rehabilitation. In particular, States Parties shall

prevent discriminatory denial of health care or health services or food and fluids on the basis of disability.

3. Over the decades following the adoption of the Covenant, the understanding of the right to food evolved significantly²⁶ until 1999, when the UN Committee on Economic, Social and Cultural Rights adopted General Comment No. 12,²⁷ the purpose of which was primarily to define more precisely rights relating to food and to monitor the implementation of the specific measures provided for in Article 11 of the Covenant.²⁸ Although General Comment No. 12 was not the first instrument in which the right to adequate food was formulated (its normative foundations should be sought in Article 25(1) of the Universal Declaration of Human Rights and Article 11 of the International Covenant on Economic, Social and Cultural Rights), it must be recognised that the Comment was of particular importance as an instrument specifying the content of this right.²⁹

In that Comment, the Committee links the right to adequate food with human dignity, the realisation of other human rights and the requirement of social justice, while also pointing to the need for practices aimed at reducing poverty.³⁰ For the further analysis, however, the key point is that the Committee links the problem of hunger not only with insufficient food production, but above all with the lack of physical and economic access to food already available (access to available food). The right to adequate food is therefore realised only when an individual has, at all times, a real possibility of obtaining adequate food or the means for its procurement.³¹

This is not a matter of a minimum supply of calories. The criterion of “adequacy” includes the quantity, quality, safety and cultural acceptability of food, while sustainability requires such an organisation of availability and access that does not impair other human rights or the needs of future generations.³² The particular elements identified by the Committee – dietary needs, food safety, cultural acceptability, availability and economic and physical

²⁶ F. Alicino, *Right to Food and Food Security...*, p. 169.

²⁷ United Nations Committee on Economic, Social and Cultural Rights, General Comment No. 12: The Right to Adequate Food (Article 11 of the Covenant), 12 May 1999, E/C.12/1999/5 (hereinafter: General Comment No. 12); L. Giacomelli, *Diritto al cibo...*, p. 5.

²⁸ A. Corini, *Human right to food...*, p. 318.

²⁹ M. Korzycka, *Prawa człowieka w prawie żywnościowym*, in: M. Korzycka, P. Wojciechowski, *System prawa żywnościowego*, Warszawa 2017, pp. 502–503.

³⁰ General Comment No. 12, para. 4.

³¹ *Ibid.*, paras. 5–6. A. Corini, *Human right to food...*, p. 318.

³² General Comment No. 12, paras. 7–8.

accessibility – should be treated primarily as criteria for assessing whether access to food is real, non-discriminatory and capable of being maintained without impairing other basic needs.³³

General Comment No. 12 therefore reinforces the qualitative and access-related dimension of the right to adequate food. As Luca Giacomelli indicates, guaranteeing the right to food means creating for everyone a real possibility of making use of food that is available and at the same time economically and physically accessible and adequate.³⁴ While the availability of food means its existence in an appropriate quantity and the possibility of obtaining supplies of it, access to food, understood as its accessibility, refers to the real possibility for a specific person to obtain it from an economic and physical point of view.³⁵ The adequacy of food, in turn, means its suitability to the physical and health needs of the human being at particular stages of life, as well as to needs arising from membership in specific cultural and religious groups, in a context serving the realisation of every person's fundamental right to the free development of his or her personality.³⁶

The Committee emphasises that the right to adequate food, like every other human right, imposes on States Parties three basic categories of obligations: the obligations to respect, to protect and to fulfil.³⁷ The obligation to respect means a prohibition of State actions that would limit or deprive the existing access to adequate food.³⁸ The obligation to protect requires the State to take measures preventing the infringement of such access by private entities, in particular enterprises and natural persons.³⁹ The obligation to fulfil comprises both the obligation to facilitate and the obligation to provide.⁴⁰ In terms of facilitation, it consists in actively taking measures that strengthen individuals' access to resources and means, enabling them to secure their livelihood, including food security.⁴¹ If, however, an individual or a group

³³ Ibid., paras. 9–14.

³⁴ L. Giacomelli, *Diritto al cibo...*, p. 5.

³⁵ Ibid.

³⁶ Ibid.

³⁷ A. Lupo, *Diritto al cibo e cambiamenti climatici: quale futuro per la sicurezza alimentare globale?*, "Rivista di diritto alimentare" 2022, no. 1, p. 57; General Comment No. 12, para. 15.

³⁸ General Comment No. 12, para. 15.

³⁹ Ibid.

⁴⁰ M. Korzycka emphasises that the duty to fulfil the right to adequate food consists of two independent elements: the duty to facilitate and the duty to provide: M. Korzycka, *Prawa człowieka...*, pp. 501–502.

⁴¹ General Comment No. 12, para. 15.

is unable, for reasons beyond its control, to enjoy the right to adequate food by the means at its disposal, the State is under an obligation to provide this right directly.⁴²

It should also be noted that General Comment No. 12 indicates that violations of the right to food may result both from direct actions by States and from the actions of other actors where such actions lead to the restriction of real access to food.⁴³ Although ultimate responsibility for the implementation of the Covenant rests with States, the Committee also emphasises the role of society and the private sector. The State should therefore create national strategies, policies and monitoring mechanisms that make it possible to realise the right to adequate food and to correct the identified shortcomings.⁴⁴ The right to food is therefore not limited solely to freedom from hunger understood in a minimalist sense, but encompasses a lasting, real and non-discriminatory access to adequate food. Already at this level it is apparent that the systemic loss of food that remains fit for consumption may weaken the effective realisation of this right as it not only reduces the efficiency with which the available resources are used, but also deepens the inequalities in access to them.

4. The concept of the “right to adequate food” refers to the concept of food security adopted at the World Food Summit in 1996.⁴⁵ It should be emphasised, however, that it was the result of an earlier evolution of the concept of food security, which had been present in international debate at least since the 1970s.⁴⁶ Of particular importance in this respect was the World Food Conference of 1974, convened by FAO in response to the food crisis of the time,⁴⁷ during which food security was recognised as one of the objectives of UN policy.⁴⁸ Initially, it focused on the need for the constant availability of adequate world food supplies, making it possible to sustain

⁴² Ibid.

⁴³ Ibid., para. 19.

⁴⁴ Ibid., paras. 20–31.

⁴⁵ M. Alabrese, G. Strambi, *Food sovereignty and food security: concepts and legal framework*, “Rivista di diritto agrario” 2019, no. 4, p. 737.

⁴⁶ Ch. Certomà, *Diritto al cibo, sicurezza alimentare, sovranità alimentare*, “Rivista di diritto alimentare” 2010, no. 2, p. 8.

⁴⁷ N. Almeida Filho, V. Scholz, *Soberanía Alimentaria Y Seguridad Alimentaria: ¿Conceptos Complementarios?*, 46th Congress, July 20–23, 2008, Rio Branco, Acre, Brazil, Sociedade Brasileira de Economia, Administração e Sociologia Rural (SOBER), p. 9.

⁴⁸ M.P. Chapetón Castro, *Soberanía alimentaria como camino de resistencia al enfoque de la seguridad alimentaria*, “Perspectivas Rurales Nueva Época” 2024, no. 44, p. 21.

consumption growth and mitigate fluctuations in production and prices.⁴⁹ In the 1980s, the concept of food security began to change under the influence of studies and analyses showing that hunger does not result solely from a lack of food, but also from economic and social factors that limit real access to food.⁵⁰ In this spirit, in 1983 FAO proposed expanding the concept of food security to include the issue of physical and economic access to food.⁵¹

However, twenty years after the entry into force of the International Covenant on Economic, Social and Cultural Rights, FAO recognised that the measures taken to date had not been sufficient for the effective realisation of the right to food⁵² and held in 1996 the World Food Summit,⁵³ during which representatives of 185 States undertook to have reduced by half the number of undernourished people by no later than 2015.⁵⁴ It was also at that Summit that The Rome Declaration on World Food Security and the World Food Summit Plan of Action were adopted.⁵⁵ These documents confirmed the close relationship between the right to food and the concept of food security in its broad understanding.⁵⁶ They emphasised that viewing food security from the perspective of the right to adequate food makes it possible to include in the fight against hunger additional – and often overlooked – factors, such as human rights and human dignity.⁵⁷

As follows from the Rome Declaration, food security exists when all people, at all times, have physical and economic access to sufficient, safe and nutritious food that meets their dietary needs and food preferences for an active and healthy life. The literature⁵⁸ emphasises that for food security to ex-

⁴⁹ F. Izolani, *Seguridad alimentaria en el aspecto del hambre: un panorama jurídico-político para el cumplimiento de los ODS*, “Nuevo Derecho” 2021, vol. 17, no. 29, p. 4; A. Di Lauro, *Diritto agrario e diritti umani: variazioni (dis)armoniche*, “Rivista di diritto agrario” 2023, no. 3, p. 422.

⁵⁰ M.P. Chapetón Castro, *Soberanía alimentaria...*, p. 22.

⁵¹ F. Izolani, *Seguridad alimentaria...*, p. 4.

⁵² F. Alicino, *Right to Food and Food Security...*, p. 172.

⁵³ FAO, *Report of the World Food Summit, Rome, 13–17 November 1996*, WFS 96/REP, <https://www.fao.org/4/w3548e/w3548e00.htm> [accessed on 28.03.2026].

⁵⁴ F. Girinelli, *The right to food...*, p. 77; Ch. Certomà, *Diritto al cibo...*, p. 2.

⁵⁵ FAO, *Rome Declaration on World Food Security and World Food Summit Plan of Action*, World Food Summit, Rome, 13–17 November 1996, WFS 96/3, <https://www.fao.org/4/w3613e/w3613e00.htm> [accessed on 28.03.2026].

⁵⁶ A. Corini, *Human right to food...*, p. 318.

⁵⁷ M. Korzycka, *Prawa człowieka...*, p. 497.

⁵⁸ N. Almeida Filho, V. Scholz, *Soberanía Alimentaria...*, p. 13.

ist, several conditions must be met jointly.⁵⁹ They are: food availability, food access, and food utilisation and stability. A hierarchy of these key elements is also indicated, assuming that food security requires first, the availability of food, then an actual access to it and, subsequently, its proper utilisation.⁶⁰

Food availability should be understood as the availability of sufficient quantities of food of appropriate quality, supplied through domestic production or imports, including food aid.

Food access means the ability of individuals to obtain appropriate resources enabling them to acquire the food necessary for a nutritious diet. It concerns the totality of means, rights and actual opportunities through which a person may come into possession of food within the legal, political, economic and social conditions of the community in which he or she lives, including entitlements arising from local customs, such as access to community resources.

Food utilisation means the use of food in conditions of an adequate diet, access to clean water, appropriate sanitary conditions and health care, so as to achieve a state of nutritional well-being in which all physiological needs are met, thereby showing the importance of non-food factors for food security.

The stability dimension, in turn, is manifested in the recognition that food security requires a population, a household or an individual to have access to adequate food at all times. This availability must not be threatened by sudden shocks, such as economic or climate crises, or by the effects of cyclical events, such as seasonal food insecurity. Stability therefore relates both to the aspect of food availability and to the access to food.

As Antonietta Lupo indicates,⁶¹ in theoretical terms food security assumes a dual meaning and should be understood both in a quantitative sense, as an instrument for addressing the problem of hunger and various forms of inequality in access to food,⁶² and in a qualitative sense, when it aims to ensure the protection of human health.⁶³ Shifting the emphasis from the individual right itself to food security does not diminish the importance of the right to food, but gives it a systemic dimension. From this perspective, counteracting

⁵⁹ M. Belay, A. Dessalegn, *Right to Food, Food Security and Food Sovereignty*, Barilla Center for Food & Nutrition Foundation, 2020, p. 8.

⁶⁰ M.E. Ibáñez-Zamacona, E. Rebato, L.E. San-Epifanio, *Los llamados puentes alimentarios: solidaridad, lucha contra el despilfarro y derechos humanos*, "Revista de Antropología Social" 2021, no. 2, p. 198.

⁶¹ A. Lupo, *Diritto al cibo e cambiamenti climatici...*, p. 55.

⁶² Food security.

⁶³ Food safety.

food waste may appear as an action that increases the availability, access and stability of food systems.

5. Despite the commitments undertaken at the conclusion of the FAO World Food Summit in 1996 to achieve a reduction by half of the number of undernourished people not later than 2015,⁶⁴ a subsequent review work openly acknowledged that this objective could not be achieved without a fundamental change in policies pursued at the international level.⁶⁵ For this reason, the commitment was incorporated into the United Nations Millennium Declaration⁶⁶ adopted by the UN General Assembly on 8 September 2000.⁶⁷ As a result, the eradication of extreme poverty and hunger was included as the first of the eight Millennium Development Goals.⁶⁸ While the Rome Declaration of 1996 constituted a specific political commitment to ensuring food security and enabling the realisation of the right to food, and General Comment No. 12 specified the right to adequate food, the Millennium Declaration made it possible to translate these impulses into the Millennium Development Goals. It should be emphasised, however, that the Millennium Development Goals changed the measure from a “number” to a “proportion.” Whereas the Rome Declaration assumed a reduction in the absolute number of undernourished people to half of the then current level by no later than in 2015, the Millennium Development Goal concerned reducing by half the proportion of people living on less than one dollar a day and the proportion of people suffering from hunger.⁶⁹ This seemingly minor linguistic difference, often overlooked in translations of these documents into other languages,⁷⁰ is

⁶⁴ Ch. Certomà, *Diritto al cibo...*, p. 2.

⁶⁵ F. Girinelli, *The right to food...*, p. 77.

⁶⁶ United Nations Millennium Declaration, adopted by United Nations General Assembly resolution 55/2 of 8 September 2000, A/RES/55/2.

⁶⁷ Ch. Certomà, *Diritto al cibo...*, p. 2.

⁶⁸ A. Corini, *Human right to food...*, p. 319. The Millennium Development Goals were formulated in the report of the UN Secretary-General, *Road map towards the implementation of the United Nations Millennium Declaration. Report of the Secretary-General*, 6 September 2001, A/56/326.

⁶⁹ UN Secretary-General, *Road map...* The report expressly states: “Halve, between 1990 and 2015, the proportion of people whose income is less than one dollar a day” and “Halve, between 1990 and 2015, the proportion of people who suffer from hunger.”

⁷⁰ In documents prepared in Polish and in Polish translations, a reference is made to the number rather than the proportion: Ośrodek Informacji ONZ w Warszawie, *Milenijne Cele Rozwoju dla młodych ludzi na całym świecie*, Warszawa 2009, https://www.unic.un.org.pl/dokumenty/cele_rozwoju_strona_internetowa.pdf [accessed on 28.03.2026], and Deklaracja Milenijna Narodów Zjednoczonych, United Nations General Assembly resolution 55/2 of

nevertheless significant. The Millennium Development Goal which assumed halving the share of people going hungry in the population was no longer as ambitious as the assumptions of the Rome Declaration, which required halving the number of the starving.⁷¹

Despite the commitments undertaken, there was not much progress in the realisation of the right to food, as a result of which another summit was convened in 2002,⁷² the aim of which was, among other things, to assess the degree to which the adopted arrangements had been implemented. It has been found that the intended results were not met: the number of people affected by food insecurity had not changed since 1996 and continued to total 815 million. Even worse, once the progress recorded in China during that period was excluded from considerations, the scale of food insecurity had in fact increased.⁷³ Consequently, at the second Rome summit a new declaration was adopted⁷⁴ to develop voluntary guidelines on the right to food.⁷⁵

During its 123rd session, the FAO Council established an intergovernmental working group⁷⁶ to prepare the Voluntary Guidelines on the progressive realisation of the right to food. These Guidelines were subsequently adopted by the FAO Council at its 127th session in November 2004.⁷⁷ Although this document is not legally binding, it provides guidance for strengthening legal frameworks and accountability mechanisms.

In November 2009, world leaders gathered at the World Summit on Food Security unanimously adopted a declaration in which they reiterated the commitment to eradicate hunger as soon as possible and definitely.⁷⁸

8 September 2000, trans. Ośrodek Informacji ONZ w Warszawie, Warszawa 2002, https://odpowiedzialnybiznes.pl/wp-content/uploads/2017/10/Deklaracja_milenijna.pdf [accessed on 28.03.2026].

⁷¹ For in the case of a country with 100 million inhabitants and 20 million undernourished persons, the proportion is 20%. If in 2015 that country had 160 million inhabitants, of whom 16 million were undernourished, the proportion would fall to 10%, that is, it would be halved, thereby achieving the Millennium Development Goal, whereas the absolute number of undernourished persons would not have been reduced by half.

⁷² FAO, *Declaration of the World Summit: five years later, Rome, 10–13 June 2002*, WFS:fyl 2002/3, <https://www.fao.org/4/Y6948E/Y6948E.pdf> [accessed on 28.03.2026].

⁷³ M. Belay, A. Dessalegn, *Right to Food...*, p. 10.

⁷⁴ FAO, *Declaration of the World Summit...*, 2002, para. 10.

⁷⁵ M. Belay, A. Dessalegn, *Right to Food...*, p. 10.

⁷⁶ FAO, *Declaration of the World Summit...*, 2002, para. 10.

⁷⁷ FAO, *Voluntary Guidelines...*

⁷⁸ Ch. Certomà, *Diritto al cibo...*, p. 3; FAO, *Declaration of the World Summit on Food Security, Rome, 16–18 November 2009*, WSFS 2009/2, p. 1, https://www.fao.org/fileadmin/templates/wsfs/Summit/Docs/Final_Declaration/WSFS09_Declaration.pdf [accessed on 28.03.2026].

It was emphasised that the measures intended to achieve this objective be sustainable.⁷⁹

In this context, reference should also be made to Resolution 1957 (2013) of the Parliamentary Assembly of the Council of Europe, “Food security – a permanent challenge for us all” which indicated that food insecurity also affects an increasing number of people in Europe.⁸⁰ It was recognised that food is the most basic human need and, at the same time, a right. Failure to ensure access for present and future generations to sufficient, safe and nutritious food threatens health, development and fundamental rights. The Assembly noted that although there is no global shortage of food, unresolved governance problems will aggravate the food crises that continue to emerge and are very often man-made. Food security was recognised as one of the most serious challenges of the twenty-first century, concerning everyone and capable of being addressed only with appropriate political will and citizen engagement.

The Resolution placed particular emphasis on the sustainable character of food production, indicating that ensuring food security requires counteracting climate change, reducing pollution, protecting natural resources and supporting sustainable models of agricultural production. The Assembly expressed deep concern about the scale of food waste, recognising this phenomenon as one of the most serious disruptions of the contemporary food system. In developed states, nearly half of the food suitable for human consumption is discarded, while its recovery could contribute to the elimination of hunger and malnutrition worldwide. As a result, the Assembly called on States to reduce losses and waste at all stages of food production, distribution and marketing.

The Resolution also emphasises that food security cannot be ensured merely by guaranteeing a sufficient quantity of food, but must also take into account its quality, safety, economic affordability and fair market organisation; in this approach, sustainability means not only environmental protection, but also shaping the food system in such a way as to reduce inequalities, strengthen community resilience and counteract food speculation. The Resolution thus links the protection of the right to food with the obligation of States to adopt legal and policy solutions conducive to sustainable production and responsible consumption, while at the same time drawing attention to the fact that the realisation of the right to food requires not only increasing

⁷⁹ FAO, *Declaration of the World Summit...*, 2009, p. 1.

⁸⁰ Parliamentary Assembly of the Council of Europe Resolution 1957 (2013), *Food security – a permanent challenge for us all*, adopted on 3 October 2013, 35th Sitting, para. 1.

supply, but also reducing waste and subordinating the food system to the principle of sustainable development.

Ultimately, however, the Millennium Development Goal had not been achieved globally.⁸¹ It should nevertheless be noted that 79 of 129 developing countries did achieve the Millennium Development Goal, and in certain regions, such as Latin America, South-East Asia, Central Asia and the Caucasus, the situation improved significantly.⁸² The 2015 report shows that although the proportion of undernourished people had fallen by almost half since the early 1990s, progress was uneven, weakened over time, and 795 million people still remained undernourished.⁸³ The dynamics of reducing hunger were negatively affected in particular by economic crises, increases in food and energy prices, climate phenomena, natural disasters, and political instability and internal conflicts.⁸⁴

Unfortunately, forecasts concerning the persistence of hunger in the international community are not favourable. This is because of the considerable complexity of the social and political causes of food insecurity and of the ways in which they are being overcome.⁸⁵ Population growth, climate change, the environmental costs of intensive agriculture and trade dependencies mean that the problem of hunger and malnutrition is acquiring a systemic character, which means that the effective realisation of the right to food requires not only increasing agricultural production, but also transforming the food system in a manner consistent with the environmental, economic and social dimensions of sustainable development.⁸⁶ In this sense, food security may appear as one of the key planes for realising the principle of sustainable development and remains closely connected to environmental protection, consumer engagement and a new approach to the agri-food sector, encompassing sources of production, processing, distribution and food consumption.⁸⁷

⁸¹ United Nations, *The Millennium Development Goals Report 2015*, New York 2015, p. 20, https://www.un.org/millenniumgoals/2015_MDG_Report/pdf/MDG%202015%20rev%20%28July%201%29.pdf [accessed on 28.03.2026].

⁸² M.Á.M. López, *El derecho...*, p. 296.

⁸³ United Nations, *The Millennium Development Goals Report 2015*, p. 21.

⁸⁴ *Ibid.*

⁸⁵ M.Á.M. López, *El derecho...*, p. 296.

⁸⁶ *Ibid.*, pp. 296–298.

⁸⁷ G. Maccioni, *La legislazione sugli sprechi alimentari*, in: P. Borghi, I. Canfora, A. Di Lauro, L. Russo (eds.), *Trattato di diritto alimentare italiano e dell'Unione europea*, Milano 2024, pp. 889–890.

In this context, there is a close connection between the right to food and the duty not to waste it. The right to food assumes that poverty and malnutrition do not result from a shortage of available resources, but from the way in which they are produced and distributed.⁸⁸ Hunger and malnutrition are therefore not currently caused by the absence or shortage of food, but rather by the inability to access it.⁸⁹ It is thus possible to speak of the so-called “paradox of abundance” consisting in the fact that despite a sufficient amount of food at the global level, some individuals still do not have access to it, while at the same time waste, overconsumption and other non-food uses of foodstuffs occur.⁹⁰ This makes it possible to state that the full realisation of the right to food requires reflection and action encompassing the entire food system and its governance, which has so far proved fragmented, incoherent and incapable of properly taking into account all the interests centred around the food sector.⁹¹

6. Ensuring food security for a growing world population with increasingly limited resources requires a paradigm shift towards sustainable food systems, encompassing both political and normative measures as well as responsibility for the environment, future generations and the social and economic dimension of development.⁹² Although the idea of sustainability has roots reaching back at least to the eighteenth-century forestry management and the principle of using resources at a rate not exceeding their regenerative capacity,⁹³ at the international level the concept of sustainable development began to take shape as of the 1972 United Nations Stockholm Conference.⁹⁴ Its classic definition was formulated in the 1987 Brundtland Report⁹⁵ according to which sustainable development is de-

⁸⁸ L. Giacomelli, *Diritto al cibo...*, p. 13.

⁸⁹ Ch. Certomà, *Diritto al cibo...*, p. 4.

⁹⁰ M. Ramajoli, *Dalla food safety...*, p. 277.

⁹¹ A. Lupo, *Diritto al cibo e cambiamenti climatici...*, p. 58.

⁹² L. Scaffardi, *La sicurezza alimentare...*, p. 2171.

⁹³ W. Kahl, *Nachhaltigkeit im Lebensmittelrecht*, “Zeitschrift für das gesamte Lebensmittelrecht” 2017, no. 2, p. 147; M. Holle, *Sustainability in European agri-food law*, in: L. Costato, F. Albisinni, T. Georgopoulos (eds.), *European and Global Food Law*, Milano 2025, p. 409.

⁹⁴ Declaration of the United Nations Conference on the Human Environment, in: *Report of the United Nations Conference on the Human Environment, Stockholm, 5–16 June 1972*, A/CONF.48/14/Rev.1, New York 1973.

⁹⁵ World Commission on Environment and Development, *Our Common Future. Report of the World Commission on Environment and Development*, 4 August 1987, A/42/427.

velopment that meets the needs of the present without compromising the ability of future generations to meet their own needs.⁹⁶ In this sense, sustainability may be read as an expression of the ethics of intergenerational responsibility.⁹⁷

A breakthrough was then brought by the 1992 Rio de Janeiro Conference⁹⁸ during which economic and social development was permanently linked with environmental protection, and the basic documents and conventions concerning this issue were adopted.⁹⁹ In subsequent years, in particular during later international conferences,¹⁰⁰ the broad understanding of sustainable development was refined and consolidated as a concept based on three pillars – economic, social and environmental – with health being both the result and a prerequisite of each of them.¹⁰¹ This confirms the multidimensional character and essence of sustainable development.¹⁰² At the same time, however, a narrower, ecological understanding of sustainability also functions, referring to specific actions and practices aimed at reducing the negative human impact on the environment.¹⁰³ It should be emphasised, however, that environmental sustainability is only one dimension of sustainability, which also encompasses economic and social aspects.¹⁰⁴ It is therefore a set

⁹⁶ L.A.C. Galvão, M.M. Haby, E. Chapman, R. Clark, V.M. Câmara, R.R. Luiz, F. Becerra-Posada, *The new United Nations approach to sustainable development post-2015: Findings from four overviews of systematic reviews on interventions for sustainable development and health*, “Revista Panamericana de Salud Pública / Pan American Journal of Public Health” 2016, vol. 39, no. 3, p. 157.

⁹⁷ D. Bondi, A. Aguti, U. Agnati, *Salute, sicurezza alimentare, sviluppo sostenibile. Un percorso tra filosofia e diritto*, “Argomenti” 2021, no. 18, p. 21.

⁹⁸ United Nations, *Report of the United Nations Conference on Environment and Development, Rio de Janeiro, 3–14 June 1992*, A/CONF.151/26/Rev.1, vol. I, New York 1993.

⁹⁹ D. Bondi, A. Aguti, U. Agnati, *Salute, sicurezza alimentare...*, p. 24.

¹⁰⁰ United Nations General Assembly resolution S-19/2 of 28 June 1997, *Programme for the Further Implementation of Agenda 21*, A/RES/S-19/2; Report of the World Summit on Sustainable Development, Johannesburg, South Africa, 26 August – 4 September 2002, A/CONF.199/20, Johannesburg Declaration on Sustainable Development and Plan of Implementation of the World Summit on Sustainable Development; United Nations General Assembly resolution 66/288 of 27 July 2012, *The future we want*, A/RES/66/288.

¹⁰¹ L.A.C. Galvão et al., *The new United Nations...*, p. 157.

¹⁰² S. Bolognini, *Il consumatore nel mercato agro-alimentare europeo fra scelte di acquisto consapevoli e scelte di acquisto sostenibili*, “Rivista di diritto agrario” 2019, no. 4, p. 618.

¹⁰³ On various approaches to sustainable development, see in particular W. Kahl, *Nachhaltigkeit...*, pp. 149–151.

¹⁰⁴ D. Bondi, A. Aguti, U. Agnati, *Salute, sicurezza alimentare...*, pp. 21–22.

of interventions aimed at “making improvements in relation to the past,” associated with practices intended to “manage the future.”¹⁰⁵

In the context of food security, an important moment in the development of the international discourse on sustainability was the FAO World Food Summit of 1996.¹⁰⁶ The Rome Declaration emphasised the need to create political, social and economic conditions conducive to sustainable food security for all.¹⁰⁷ At the same time, it must be stressed that sustainability was understood not only in an environmental dimension, but as an element of a broader organisation of the food system, encompassing trade, social development, resource management and the realisation of the right to adequate food. For this reason, an important challenge is to transform the food system in such a way as to reconcile all these dimensions.¹⁰⁸

It is worth noting that the Rome Declaration and Plan of Action¹⁰⁹ also included a call to reduce post-harvest food losses and pointed to the need to develop technologies for processing, preservation and storage of food in order to reduce them, especially at the local level. Initially, the problem was approached from a production, infrastructural and logistical perspective, and therefore as an issue connected with the capacity of the supply chain, and not as a matter of excessive consumption and discarding of food at the retail and household levels. A broader approach to the problem, covering not only food losses but also food waste, that is, food discarded despite being fit for consumption, was clearly reflected in PACE Resolution 1957 (2013)¹¹⁰ which recognised the scale of food waste as one of the significant challenges of food security. The negative consequences of food waste occur in all three dimensions of sustainable development: economic, social and environmental.¹¹¹ From an ethical perspective, this phenomenon also reveals a profound

¹⁰⁵ M. Fama, A. Corrado, ¿“Seguridad alimentaria” y “desarrollo sostenible” como profecías de un nuevo régimen agroalimentario en la ecología-mundo?, “Relaciones Internacionales” 2021, no. 47, p. 73.

¹⁰⁶ FAO, *Report of the World Food Summit...*, 1996.

¹⁰⁷ FAO, *Rome Declaration on World Food Security...*

¹⁰⁸ D. Bondi, A. Aguti, U. Agnati, *Salute, sicurezza alimentare...*, pp. 21–22.

¹⁰⁹ FAO, *Rome Declaration on World Food Security...*

¹¹⁰ Parliamentary Assembly of the Council of Europe, Resolution 1957 (2013), *Food security – a permanent challenge for us all*, adopted on 3 October 2013, 35th Sitting, paras. 4 and 8.2.1–8.2.2, <https://assembly.coe.int/nw/xml/XRef/Xref-XML2HTML-en.asp?file-id=20227&lang=en> [accessed on 28.03.2026].

¹¹¹ L.M. Vieira, M.D. de Barcellos, G.P. de Araujo, M. Eriksson, M. Dora, D.E. Matzembacher, *Desperdício de alimentos: desafios e oportunidades em operações sustentáveis*, “Revista de Administração de Empresas” 2021, vol. 61, no. 5, p. 1.

contradiction between the scale of production and the actual capacity to meet food needs.¹¹² Its reduction may lead to savings of economic resources, cost reduction, improved food security, mitigation of negative social and environmental effects, and may also help to respond to the increasing pressure faced by enterprises to act in a more sustainable manner – all these factors contribute to the creation of a sustainable food system.¹¹³

Linking food security with the principle of sustainable development leads to the conclusion that the assessment of the food system cannot disregard the environmental and social costs of handling food at all stages of the agri-food chain and the loss of food. Food waste means not only the loss of a product itself, but also the unproductive use of land, water, energy, labour and other resources.

Andrea Segrè, drawing attention to the defective functioning of the global agri-food system and its negative consequences for humanity, and in particular for natural, economic, social and cultural resources, points to three paradoxes characteristic of the present agri-food system.¹¹⁴ First, the amount of food produced worldwide is sufficient to feed far more people than currently live on Earth, and yet hunger does not disappear. Second, undernutrition and obesity are no longer problems of the separate worlds of poverty and wealth, but they often coexist in the same country or even society. Third, enormous quantities of food are wasted, although this wasted food could, to a large extent, help reduce hunger.

The above paradoxes show that the problem of hunger and food insecurity cannot be perceived solely as a problem of insufficient food production. The losses and waste of a significant part of the food produced make it possible to state that the problem is systemic in nature and remains closely connected with patterns of production, distribution and consumption, as well as with the environmental and social costs of the contemporary economic model. This, in turn, reveals the limitations of the approach proper to the Millennium Development Goals, focused mainly on the quantitative reduction of hunger and malnutrition. In this context, the 2030 Agenda¹¹⁵ may constitute

¹¹² V. Giannetti, G. Livi, *L'impegno contro lo spreco alimentare: un'opportunità di cambiamento per la sostenibilità globale*, "Agriclabriacuropa" 2021, no. 2, p. 2.

¹¹³ L.M. Vieira et al., *Desperdício de alimentos...*, p. 1.

¹¹⁴ A. Segrè, *Malnutrizione e spreco alimentare: dai paradossi ai nuovi paradigmi per un mondo sostenibile*, "Parolechiave" 2011, no. 1, pp. 49–51.

¹¹⁵ United Nations General Assembly resolution 70/1 of 25 September 2015, *Transforming our world: the 2030 Agenda for Sustainable Development*, A/RES/70/1 (hereinafter: 2030 Agenda).

a response to the limitations of the earlier approach, framing the problem of hunger and food not only as a humanitarian issue, but above all embedding the problem of food security and the fight against hunger within the structure of the Sustainable Development Goals. Ensuring food security requires, above all, responsible consumption and production, climate protection and sustainable resource management. Although the 2030 Agenda continues the work of the Millennium Development Goals and seeks to realise the objectives that were not achieved under them, its framework extends far beyond the Millennium Development Goals.¹¹⁶ From this perspective, the 2030 Agenda may constitute a further stage in efforts aimed at the effective realisation of food security in its sustainable understanding.¹¹⁷

In 2015, when the Sustainable Development Goals replaced the Millennium Development Goals, reducing hunger remained one of the most pressing challenges of the contemporary world for which the international community has not yet managed to devise a fully effective solution. Hence, the elimination of hunger by 2030 became one of the seventeen Sustainable Development Goals.

The first target of the second goal (the “Zero Hunger” goal) assumes elimination of hunger by 2030 and ensuring all people, in particular the poor, those in vulnerable situations, including infants, access to safe, nutritious and sufficient food all year round.

The literature notes that although this goal is clearly aimed at securing the right to food referred to in Article 11 of the International Covenant on Economic, Social and Cultural Rights, it nevertheless differs from earlier international commitments in that at the centre of this construction lies sustainability.¹¹⁸ This is because the fourth target of this goal requires that, by 2030, sustainable food production systems be established and resilient agricultural practices implemented. Those practices should increase productivity and production, maintain ecosystems, strengthen capacity for adaptation to climate change, extreme weather events, drought, flooding and other disasters, and progressively improve land and soil quality.

The 2030 Agenda also points to broader development and environmental challenges, including the unsustainable use of natural resources, deforestation, water scarcity, soil and land degradation, and the need to reduce greenhouse gas emissions. As a consequence, the contemporary world faces the necessity of feeding a growing number of people while the natural re-

¹¹⁶ Ibid., paras. 16 and 17, p. 6.

¹¹⁷ F. Alicino, *Right to Food and Food Security...*, p. 173.

¹¹⁸ M. Belay, A. Dessalegn, *Right to Food...*, p. 14.

sources necessary for food production are simultaneously shrinking.¹¹⁹ The 2030 Agenda, as a programme comprising 17 Sustainable Development Goals specified in 169 targets, is based on the assumption of the mutual interdependence and indivisibility of the goals set. Its structure serves to balance the three basic dimensions of sustainable development: economic growth, environmental protection and social engagement.¹²⁰ The 2030 Agenda confirmed that sustainable development has an integrated character and encompasses those interdependent dimensions which require coordinated action in many mutually connected areas that are important for people and the world.¹²¹ At the same time, the implementation of individual sustainable development goals should be coordinated, because the achievement of one of them cannot take place at the expense of others.¹²²

A particularly important role within the paradigm of sustainable development is played by counteracting food waste, which, as Target 3 of Goal 12 on responsible consumption and production, remains coordinated with most of the other goals.¹²³ It assumes that, by 2030, global food waste per capita at the retail and consumer levels will be halved and food losses in production and distribution processes, including post-harvest losses, will be reduced.¹²⁴ Reducing waste therefore appears to be one of the key tasks in implementing the 2030 Agenda, especially since a significant part of the Sustainable Development Goals relates to areas directly connected with this issue, such as poverty, health, food, agriculture, water, energy, climate change and terrestrial ecosystems.¹²⁵ The response to this challenge is also the implementation of ten-year programmes on sustainable consumption and production for all countries, with developed countries taking the lead, taking into account the level of development and capabilities of developing countries,¹²⁶ as well as ensuring that by 2030 the sustainable management and efficient use of natural resources has been achieved.¹²⁷ Other goals include the sound and environmentally friendly management of chemicals and all wastes throughout their life cycle and reduction of the release of these sub-

¹¹⁹ F. Alicino, *Right to Food and Food Security...*, p. 173.

¹²⁰ G. Maccioni, *La legislazione...*, p. 891.

¹²¹ S. Bolognini, *Il consumatore nel mercato agro-alimentare europeo...*, pp. 619–620.

¹²² E. Cristiani, *Quali regole per un'agricoltura sostenibile?*, “Rivista di diritto agrario” 2018, no. 1, p. 650.

¹²³ G. Maccioni, *La legislazione...*, p. 890.

¹²⁴ Goal 12, Target 12.3 of the 2030 Agenda.

¹²⁵ G. Maccioni, *La legislazione...*, pp. 890–891.

¹²⁶ Goal 12, Target 12.1 of the 2030 Agenda.

¹²⁷ Goal 12, Target 12.2 of the 2030 Agenda.

stances to air, water and soil, thereby minimising their adverse impacts on human health and the environment;¹²⁸ reduction of waste generation through prevention, reduction, recycling and reuse;¹²⁹ encouraging enterprises to adopt sustainable practices and include information on this subject in their regular reports;¹³⁰ promotion of sustainable public procurement practices¹³¹ and ensuring access to relevant information for all people worldwide and raising their awareness concerning sustainable development and lifestyles in harmony with nature.¹³²

The Agenda therefore assumes the active involvement of both the public and private sectors in promoting sustainable practices and supporting a transformation consistent with the requirements of sustainable development. An important role in this process is also attributed to consumers, whose conscious choices should be supported by appropriate education, reliable information and proper regulation in the fields of food safety and consumer protection.¹³³

It should also be emphasised that the optimal path leading to sustainable development does not mean a complete elimination of food waste, but a situation in which food losses and food waste are significantly lower than at present, since the real final costs of measures aimed at achieving a very low level of losses and waste may at some point prove too high and exceed the economic, social and environmental benefits resulting from further reductions of those losses.¹³⁴ Furthermore, an increase in supply resulting from a reduction in food waste may improve access to food, but at the same time reduce prices and producers' incomes, thereby weakening supply.¹³⁵

7. The 2030 Agenda addresses the issue of food in a broader sense than the traditionally understood concept of food security, linking it to a range of goals concerning poverty, health, the environment, climate, production and consumption. It can be said that it creates a kind of normative space within

¹²⁸ Goal 12, Target 12.4 of the 2030 Agenda.

¹²⁹ Goal 12, Target 12.5 of the 2030 Agenda.

¹³⁰ Goal 12, Target 12.6 of the 2030 Agenda.

¹³¹ Goal 12, Target 12.7 of the 2030 Agenda.

¹³² Goal 12, Target 12.8 of the 2030 Agenda.

¹³³ G. Maccioni, *La legislazione...*, p. 892.

¹³⁴ High Level Panel of Experts on Food Security and Nutrition (HLPE), *Food losses and waste in the context of sustainable food systems. A report by the High Level Panel of Experts on Food Security and Nutrition of the Committee on World Food Security*, Rome 2014, p. 32, <https://www.fao.org/3/a-i3901e.pdf> [accessed on 24.03.2026].

¹³⁵ R. Nicastro, P. Carillo, *Food Loss and Waste Prevention Strategies from Farm to Fork*, "Sustainability" 2021, no. 13, p. 8.

which calls for food sovereignty can also be found, although the 2030 Agenda itself neither explicitly uses this term nor refers to this concept directly.

Food sovereignty, however, is closely linked to the principle of sustainable development, as it highlights the need to shape a food system that integrates social, economic and environmental dimensions with community agency and equitable access to resources.

The origins of the concept of food sovereignty should be sought in an international scientific conference organised by the Via Campesina movement in 1996 in Tlaxcala, Mexico, during which non-governmental organisations and civil society movements attempted to formulate, at the global level, a challenge to the dominant neoliberal economic system, proposing alternative political strategies aimed at guaranteeing food security.¹³⁶ The development of food sovereignty movements constituted a response to the limitations of the dominant food security paradigm, which had failed either to reduce hunger effectively or to ensure sustainable agricultural development for most of the world's population.¹³⁷

The concept of food sovereignty, however, was first defined by Via Campesina during the FAO World Food Summit in Rome in 1996.¹³⁸ Pursuant to this concept each nation has a right to maintain and develop its own capacity to produce basic food with respect for cultural and productive diversity; it also includes the right to produce one's own food on one's own territory.¹³⁹ At the same time, it constitutes a prerequisite for genuine food security, and the right to food is the basic instrument serving to ensure it.¹⁴⁰ The idea of food sovereignty is based on seven principles: food as a basic human right; agrarian reform; protection of natural resources; reorganisation of food trade; ending the globalisation of hunger; social peace; and democratic control.¹⁴¹

During the Forum for Food Sovereignty¹⁴² held in Rome in 2002 in parallel with the FAO World Food Summit, the following definition of

¹³⁶ A. Rinella, H. Okoronko, *Sovranità alimentare e diritto al cibo*, "Diritto pubblico comparato ed europeo" 2015, no. 1, pp. 90–91.

¹³⁷ M. Belay, A. Dessalegn, *Right to Food...*, p. 26.

¹³⁸ La Via Campesina, *Food Sovereignty: A Future without Hunger*, p. 1, document presented during the World Food Summit, Rome 1996, <https://viacampesina.org/en/wp-content/uploads/sites/2/2021/11/1996-Rom-en.pdf> [accessed on 28.03.2026].

¹³⁹ Ibid., p. 1; M. Ramajoli, *Dalla food safety...*, p. 277.

¹⁴⁰ A. Rinella, H. Okoronko, *Sovranità alimentare...*, p. 91.

¹⁴¹ La Via Campesina, *Food Sovereignty: A Future without Hunger*, pp. 1–3.

¹⁴² NGO/CSO Forum for Food Sovereignty, *Food Sovereignty: A Right for All. Political Statement of the NGO/CSO Forum for Food Sovereignty*, Rome, June 2002, <https://nyeleni.org/en/food-sovereignty-a-right-for-all/> [accessed on 28.03.2026].

food sovereignty was proposed: “Food sovereignty is the right of peoples, communities, and countries to define their own agricultural, labour, fishing, food and land policies which are ecologically, socially, economically and culturally appropriate to their unique circumstances. It includes the true right to food and to produce food, which means that all people have the right to safe, nutritious and culturally appropriate food, to food-producing resources and to the ability to sustain themselves and their societies.”¹⁴³

The definition of food sovereignty was subsequently clarified and developed in the Nyéléni Declaration of 2007.¹⁴⁴ According to that Declaration, food sovereignty assumes the need to transform a system based to a significant extent on market mechanisms into a system based on self-sufficiency and the agency of local communities. Food sovereignty emphasises the primacy of the right to adequate food, recognition of the role of food producers, the grounding of food systems at the local level, and decision-making as close as possible to the communities affected by it. It also postulates the protection of access to land, water, seeds and other productive resources, the development of local knowledge and agroecological practices, and the organisation of food production in a socially just and environmentally sustainable manner.

Food security and food sovereignty are closely linked, as both concepts emphasise the importance of access to food as a fundamental issue of our time, the need to increase agricultural production, and the significance of the link between food and nutrition.¹⁴⁵ They differ, however, as to how these issues should be addressed: food security relies mainly on a top-down approach, whereas food sovereignty focuses on bottom-up solutions and greater empowerment of local communities.¹⁴⁶ Criticism of the food security paradigm concerns primarily its dependence on market mechanisms that foster market concentration, weaken the position of small producers and perpetuate socially and environmentally harmful practices.¹⁴⁷ Food sovereignty, by contrast, proposes a model based on sustainable development, local control over food systems, as well as social and economic justice. This concept assumes that the food system is shaped by unequal power relations; it therefore emphasises the role of the State in balancing these relations

¹⁴³ Ch. Certomà, *Diritto al cibo...*, p. 10.

¹⁴⁴ Nyéléni Declaration, Nyéléni Village, Sélingué, Mali, 27 February 2007, <https://nyeleni.org/en/deklaracja-z-nyeleni-nyeleni-village-selingue-mali/> [accessed on 28.03.2026].

¹⁴⁵ M. Belay, A. Dessalegn, *Right to Food...*, p. 30.

¹⁴⁶ Ibid.

¹⁴⁷ Ibid., p. 31.

and indicates that food cannot be treated solely as a commodity.¹⁴⁸ In this approach, no less important than increasing the quantity of food is who produces it, how it is produced, and how the benefits and costs of this process are distributed.¹⁴⁹ In conclusion, it must be said that food sovereignty, as a prerequisite, is intended to contribute to defining the conditions for food security.¹⁵⁰

It is noteworthy that the right to food appears to have a stronger normative dimension than food security, as it is not limited to describing a desired state of affairs, but also emphasises the State's responsibility for ensuring it is realised.¹⁵¹ Food sovereignty complements this perspective by indicating that the lasting implementation of the right to food requires not only ensuring adequate quantity, but also an organisation of the food system that protects the rights of producers, takes cultural conditions into account and strengthens local control over food production.¹⁵²

Although the concept of food sovereignty does not have the same normative status as the right to food, it performs an important critical and corrective function. It draws attention to the fact that the manner in which food production and distribution are organised is relevant to assessing the justice of the entire system, and therefore also to assessing the scale and causes of food waste. In this approach, the centre of gravity shifts from vindicating an individual right to food to the postulate of collectively shaping agri-food policies and distributing resources more fairly, since food sovereignty is based on the assumption that the problem is not only a shortage of food, but also a lack of political will to distribute it fairly.¹⁵³

The assumptions of food sovereignty have subsequently been taken into account in the concept of food security. In 2020, in addition to the four classic dimensions of food security, the HLPE¹⁵⁴ called for two further dimensions: agency and sustainability. Agency means the capacity of individuals and

¹⁴⁸ E.A. Gómez Trujillo, E. Martínez Andrade, J.A. Rivas García, E.M. Villalobos Maradiaga, *La seguridad y soberanía alimentaria*, "Revista Iberoamericana de Bioeconomía y Cambio Climático" 2016, no. 1, p. 320.

¹⁴⁹ M. Belay, A. Dessalegn, *Right to Food...*, p. 31.

¹⁵⁰ A. Rinella, H. Okoronko, *Sovranità alimentare...*, p. 92.

¹⁵¹ A. Mann, *Food Sovereignty: Alternatives to Failed Food and Hunger Policies*, "Contemporanea" 2015, no. 3, p. 458.

¹⁵² Ibid.

¹⁵³ A. Ligustro, *Diritto al cibo e sovranità alimentare nella prospettiva dell'Organizzazione Mondiale del Commercio*, "Diritto pubblico comparato ed europeo" 2019, p. 397.

¹⁵⁴ HLPE, *Food security and nutrition: building a global narrative towards 2030. A report by the High Level Panel of Experts on Food Security and Nutrition of the Committee*

groups to make their own decisions concerning food, in particular what they eat, what food they produce, and how this food is produced, processed and distributed, and it also includes the possibility of participating in decision-making and political processes affecting food systems.¹⁵⁵ Sustainability, in turn, refers to practices in the food system that foster the long-term regeneration of natural, social and economic systems, and means organising the food system in a manner that enables the food needs of present generations to be met without compromising the ability of future generations to meet theirs.¹⁵⁶ It should be noted, however, that these two additional dimensions of food security, although convergent with the axiology of food sovereignty, cannot be equated with it. Food sovereignty may in this respect be perceived as a specific path towards achieving food security, especially in its agency and sustainability dimensions.

8. The problem of counteracting food waste lies at the intersection of the right to food, food security, food sovereignty and sustainable development. From the perspective of international law, it reveals one of the basic paradoxes of the contemporary food system, namely the coexistence of a normatively guaranteed right to food with the continuing scale of hunger and malnutrition and, at the same time, high levels of food losses and food waste. It must be emphasised that food loss and waste are not the cause of hunger, but they indicate that the global food system operates in an unequal and inefficient manner.¹⁵⁷ Reducing food losses and food waste should therefore be perceived not only as an instrument for rationalising the food economy, but also as an important means of realising the right to food and strengthening food security, especially where it is accompanied by broader changes in the functioning of the food system. Food losses and food waste weaken food security by reducing food availability, hindering access to food through price increases and economic losses, worsening the quality of nutrition through the loss of nutrients¹⁵⁸ and undermining the stability of the food system.¹⁵⁹

on *World Food Security*, Rome 2020, <https://openknowledge.fao.org/server/api/core/bitstreams/8357b6eb-8010-4254-814a-1493faaf4a93/content> [accessed on 28.03.2026].

¹⁵⁵ HLPE, *Food security and nutrition...*, p. 15.

¹⁵⁶ M. Belay, A. Dessalegn, *Right to Food...*, p. 8.

¹⁵⁷ HLPE, *Food losses and waste...*, pp. 35–38.

¹⁵⁸ H. Bremmers, B. van der Meulen, *The Problem of Food Waste: A Legal-Economic Analysis*, in: G. Steier, K.K. Patel (eds.), *International Food Law and Policy*, Cham 2016, p. 560. Authors indicate that food waste threatens the implementation of the “right to adequate food” because of the loss of nutrients and their use for purposes other than human consumption.

¹⁵⁹ HLPE, *Food losses and waste...*, pp. 35–38.

Counteracting food waste is at the same time closely connected to two additional dimensions of food security, namely agency and sustainability. On the one hand, it requires strengthening the subjectivity of participants in the food system, including producers and consumers and their real influence on models of food production, distribution and consumption. On the other hand, it leads to reducing the pressure exerted on natural resources, lowering environmental and social costs, and making more efficient use of food already produced. In this sense, counteracting food waste is an example of measures that affect the sustainability of the food system.

This issue also remains closely connected with the axiology of food sovereignty. It reveals the structural limitations of a food model subordinated to a significant extent to market logic and overproduction rather than to satisfying the food needs of communities. From this perspective, counteracting waste is not limited to a postulate of efficiency, but also means striving for a more just, responsible and socially embedded organisation of the food system.

It is therefore no coincidence that the 2030 Agenda emphasises the need to reduce food losses and food waste, making this issue one of the elements of responsible production and consumption. It is precisely at this point that the special role of counteracting food waste becomes visible as a plane on which the basic assumptions of the right to food, food security, food sovereignty and sustainable development meet.

The foregoing considerations lead to the conclusion that counteracting food losses and food waste should be understood as one of the important instruments for implementing the right to food and food security, and at the same time as an element of realising the principle of sustainable development. The right to food emphasises the subjective dimension of access to adequate food; food security – the systemic dimension; sustainable development – the intergenerational and environmental dimension; and food sovereignty – the political and community dimension. Although these categories are not identical, they complement one another. In this light, food loss and food waste should be viewed as legally relevant phenomena that reveal dysfunctions within the food system and justify public action aimed at preserving the nutritional function of food products and ensuring the fair and rational management of resources. From this perspective, combating food loss and waste can effectively contribute both to increasing the actual availability of food and to streamlining the functioning of the entire food system, thereby strengthening the realisation of the right to food and sustainable food security.

In light of the foregoing considerations, the goals of the 2030 Agenda, including the goal of eliminating hunger by 2030, should be assessed as normatively significant, but at the same time very optimistic if they are to be understood as a realistic forecast of the effective elimination of hunger at the global level within the timeframe set. Their importance lies primarily in setting a common direction for the actions of States and international organisations, as well as in linking the right to food with the requirements of sustainable development, responsible production and consumption, and intergenerational responsibility. It cannot be overlooked, however, that emerging risk factors – armed conflicts, climate change, degradation of natural resources, rising food prices, social and economic inequalities and the fragility of global supply chains – may significantly limit the possibility of fully achieving these goals by 2030. From this perspective, counteracting food losses and food waste should be perceived not so much as an independent remedy for the problem of hunger, but rather as a necessary, although insufficient, instrument of a broader transformation of food systems. It may strengthen food availability, reduce the irrational use of resources and give effect to the environmental and intergenerational dimension of sustainable food security; however, its effectiveness depends on its connection with measures concerning distribution, poverty, the local resilience of food systems and the responsibility of States for ensuring real access to adequate food. In this sense, the 2030 Agenda remains an important point of reference for the development of international law, while its goals should be treated primarily as a mobilising commitment and a criterion for assessing public policies, rather than as a sufficient guarantee of achieving a world free from hunger.

BIBLIOGRAPHY

- Alabrese M., Strambi G. (2019), *Food sovereignty and food security: concepts and legal framework*, “Rivista di diritto agrario” no. 4.
- Alicino F. (2021), *Right to Food and Food Security: A Comparative Perspective*, in: C. Caporale, I.R. Pavone, M.P. Ragonieri (eds.), *International Food Law. How Food Law can Balance Health, Environment and Animal Welfare*, Alphen aan den Rijn.
- Almeida Filho N., Scholz V. (2008), *Soberanía Alimentaria y Seguridad Alimentaria: ¿Conceptos Complementarios?*, 46th Congress, Rio Branco, Acre, Sociedade Brasileira de Economia, Administração e Sociologia Rural (SOBER).
- Barna J., Excoffier M. (2013), *Food Security in a Just Food System*, “Rivista di diritto agrario” no. 4.
- Bolognini S. (2019), *Il consumatore nel mercato agro-alimentare europeo fra scelte di acquisto consapevoli e scelte di acquisto sostenibili*, “Rivista di diritto agrario” no. 4.

- Bondi D., Aguti A., Agnati U. (2021), *Salute, sicurezza alimentare, sviluppo sostenibile. Un percorso tra filosofia e diritto*, "Argomenti" no. 18.
- Bremmers H., Meulen B. van der (2016), *The Problem of Food Waste: A Legal-Economic Analysis*, in: G. Steier, K.K. Patel (eds.), *International Food Law and Policy*, Cham.
- Certomà Ch. (2010), *Diritto al cibo, sicurezza alimentare, sovranità alimentare*, "Rivista di diritto alimentare" no. 2.
- Chapetón Castro M.P. (2024), *Soberanía alimentaria como camino de resistencia al enfoque de la seguridad alimentaria*, "Perspectivas Rurales Nueva Época" no. 44.
- Corini A. (2015), *Human right to food: some reflections*, in: L. Escajedo San-Epifanio, M. de Renobales Scheifler (eds.), *Envisioning a Future without Food Waste and Food Poverty: Societal Challenges*, Wageningen.
- Costato L., Borghi P. (2024), *Diritto al cibo, agricoltura e prodotti agroalimentari nella prospettiva globale e nei trattati europei*, in: P. Borghi, I. Canfora, A. Di Lauro, L. Russo (eds.), *Trattato di diritto alimentare italiano e dell'Unione europea*, Milano.
- Cristiani E. (2018), *Quali regole per un'agricoltura sostenibile?*, "Rivista di diritto agrario" no. 1.
- Di Lauro A. (2023), *Diritto agrario e diritti umani: variazioni (dis)armoniche*, "Rivista di diritto agrario" no. 3.
- Fama M., Corrado A. (2021), *¿"Seguridad alimentaria" y "desarrollo sostenible" como profecías de un nuevo régimen agroalimentario en la ecología-mundo?*, "Relaciones Internacionales" no. 47.
- Galvão L.A.C., Haby M.M., Chapman E., Clark R., Câmara V.M., Luiz R.R., Becerra-Posada F. (2016), *The new United Nations approach to sustainable development post-2015: Findings from four overviews of systematic reviews on interventions for sustainable development and health*, "Revista Panamericana de Salud Pública / Pan American Journal of Public Health" vol. 39, no. 3.
- Giacomelli L. (2018), *Diritto al cibo e solidarietà. Politiche e pratiche di recupero delle eccedenze alimentari*, "Osservatorio costituzionale" no. 1.
- Giannetti V., Livi G. (2021), *L'impegno contro lo spreco alimentare: un'opportunità di cambiamento per la sostenibilità globale*, "Agriclabriacuropa" no. 2.
- Girinelli F. (2021), *The right to food and the implementation strategies*, in: S. Mancuso (ed.), *Law and Food. Regulatory Recipes of Culinary Issues*, London – New York.
- Gómez Trujillo E.A., Martínez Andrade E., Rivas García J.A., Villalobos Maradiaga E.M. (2016), *La seguridad y soberanía alimentaria*, "Revista Iberoamericana de Bioeconomía y Cambio Climático" no. 1.
- Holle M. (2025), *Sustainability in European agri-food law*, in: L. Costato, F. Albisinni, T. Georgopoulos (eds.), *European and global food law*, Milano.
- Ibáñez-Zamacona M.E., Rebato E., San-Epifanio L.E. (2021), *Los llamados puentes alimentarios: solidaridad, lucha contra el despilfarro y derechos humanos*, "Revista de Antropología Social" no. 2.
- Izolani F. (2021), *Seguridad alimentaria en el aspecto del hambre: un panorama jurídico-político para el cumplimiento de los ODS*, "Nuevo Derecho" vol. 17, no. 29.
- Kahl W. (2017), *Nachhaltigkeit im Lebensmittelrecht*, "Zeitschrift für das gesamte Lebensmittelrecht" no. 2.

- Korzycka M. (2017), *Prawa człowieka w prawie żywnościowym*, in: M. Korzycka, P. Wojciechowski, *System prawa żywnościowego*, Warszawa.
- Ligustro A. (2019), *Diritto al cibo e sovranità alimentare nella prospettiva dell'Organizzazione Mondiale del Commercio*, "Diritto pubblico comparato ed europeo".
- López M.Á.M. (2016), *El derecho a la alimentación ante los riesgos del futuro*, "Araucaria. Revista Iberoamericana de Filosofía, Política y Humanidades" no. 36.
- Lupo A. (2022), *Diritto al cibo e cambiamenti climatici: quale futuro per la sicurezza alimentare globale?*, "Rivista di diritto alimentare" no. 1.
- Maccioni G. (2024), *La legislazione sugli sprechi alimentari*, in: P. Borghi, I. Canfora, A. Di Lauro, L. Russo (eds.), *Trattato di diritto alimentare italiano e dell'Unione europea*, Milano.
- Mann A. (2015), *Food Sovereignty: Alternatives to Failed Food and Hunger Policies*, "Contemporanea" no. 3.
- Martínez Navarro J.A. (2024), *El derecho a la alimentación y el deber sobre los desperdicios alimentarios*, "Revista CESCO de Derecho de Consumo" no. 50.
- Nicastro R., Carillo P. (2021), *Food Loss and Waste Prevention Strategies from Farm to Fork*, "Sustainability" no. 13.
- Pachón J.P., Medina-Moreno M., Pachón-Ariza F.A. (2018), *El hambre: abordaje desde la seguridad alimentaria hasta el derecho a la alimentación*, "Gestión y Ambiente" no. 2.
- Paltrinieri R., Parmiggiani P. (2018), *Riduzione dello spreco alimentare, sostenibilità e inclusione sociale*, in: R. Paltrinieri, P. Parmiggiani (eds.), *Pratiche di riduzione dello spreco alimentare e inclusione sociale*, Milano.
- Ramajoli M. (2015), *Dalla food safety alla food security e ritorno*, "Amministrare" no. 2–3.
- Rinella A., Okoronko H. (2015), *Sovranità alimentare e diritto al cibo*, "Diritto pubblico comparato ed europeo" no. 1.
- Scaffardi L. (2023), *La sicurezza alimentare ovvero come il "diritto a togliersi la fame" evolve in un mondo che cambia*, "DPCE Online" vol. 59, no. 2.
- Segrè A. (2011), *Malnutrizione e spreco alimentare: dai paradossi ai nuovi paradigmi per un mondo sostenibile*, "Parolechiave" no. 1.
- Vergara-Romero A., Sorhegui-Ortega R., Salvador-Guerra C. (2021), *La soberanía alimentaria en el desarrollo local*, "Revista de la Universidad del Zulia" no. 32.
- Vieira L.M., Barcellos M.D. de, Araujo G.P. de, Eriksson M., Dora M., Matzembacher D.E. (2021), *Desperdício de alimentos: desafios e oportunidades em operações sustentáveis*, "Revista de Administração de Empresas" vol. 61, no. 5.