Cage Free Eggs: Global Transition Towards Acceptable Business Models

White Paper

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By Act For Farmed Animals

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Aisah Nurul Fitri: Veterinarian, Doctor of Veterinary Medicine (UGM).
Fernanda Vieira: Animal Scientist, Master's in Animal Production (UNESP), PhD focused on animal welfare (ESALQ/USP).

Technical reviewers:
Anna Cristina Souza: Veterinarian, PhD candidate in Animal Science (USP).
Patricia Tatemoto: Biologist, Master's in Biology (UNESP), PhD in Preventive Veterinary Medicine and Animal Health (USP), Post-doctorate (USP), MBA in Agribusiness (USP).
Yuri Fernandes Lima: Lawyer, PhD fellowship (UFPR) and Master's (UFBA) in Law, Specialist in Environment and Society (FESPSP). Author of the book Animal Law and the Laying Hens Egg Industry (Juruá, 2020).
Maria Catalina T. De Luna: Veterinarian, Master's in Agricultural Science (Nagoya University, Japan), PhD Student (University of Edinburgh) working on Human Behavior Change Intervention and Layer Hen Welfare in the Philippines, Faculty member (Animal Behavior and Welfare), Animal Physiology Division, Institute of Animal Science, College of Agriculture and Food Science, University of the Philippines Los Baños.
Zulfikar Basrul Gandong: Veterinarian, Master of Animal Welfare Science, Ethics, and Law, Specialist in Animal Law and Ethics, University of Glasgow, Veterinarian in West Java Center for Animal, Fish, and Plant Quarantine.
Cara Helena Wilcox: PhD Candidate in Animal Husbandry, Specialist in Broiler Welfare, Universitas Padjadjaran, Indonesia.

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Executive Summary

The global shift towards more sustainable and ethical food production is driven by increasing consumer demand for transparency and higher animal welfare standards. Intensive confinement systems, such as battery cages used in egg production, have been criticized for their severe impact on animal welfare, leading to a growing call for cage-free alternatives. The use of cage-free eggs is becoming increasingly important and valuable, aligning with evolving consumer preferences.

Sustainability now encompasses environmental factors, impacts on human health, animal welfare, and ethical considerations. Financial institutions and companies recognize that incorporating higher animal welfare standards can mitigate risks and offer market differentiation and innovation opportunities. The rise in consumer awareness and legislative actions, such as bans on battery cages in the EU and other countries, underscores the urgent need for the egg production industry to adapt.

Companies that fail to embrace these changes risk losing market access and investor support. Conversely, those implementing cage-free systems and enhancing welfare standards can benefit from improved public image and new market opportunities. The transition to cage-free eggs is increasingly seen as both a moral imperative and a strategic business move essential for staying competitive in a rapidly evolving market.

Aisah Nurul Fitri and Fernanda Vieira
Animal Welfare and Research Program
at Sinergia Animal

Cage-Free Eggs

Driving Transition In A World With New Demands

01

Global Transition

The global shift toward sustainable food production emphasizes animal welfare, including transitioning from battery cages to cage-free systems. Companies that embrace this change gain market opportunities while those that resist risk losing market access and investor support.

02

Enhanced Business Models

Consumers demand sustainable and ethical products, including in terms of animal welfare. Sustainability and transparency are growing priorities for consumers and investors, driving change in the food production sector.

03

Urgent Challenges

Food companies face several criticisms over unsustainable livestock practices. Transitioning to cage-free systems addresses animal welfare, improves business resilience, and mitigates risks.

New Markets

Corporate commitments and legislative changes increasingly favor cage-free systems, driving companies to adopt higher standards of animal welfare.

04

A Better Future

In the current perspective, a paradigm shift in food systems is essential. Transitioning to cage-free egg production aligns with both consumer values and the interests of companies.

01 Cage Free Eggs: Global Transition Towards Acceptable Business Models

Consumers around the globe are increasingly gravitating towards more sustainable and ethical products, including food choices. The alarming scientific evidence and media coverage about the growing human impact on the planet are driving these behavioral shifts.[1] In the past, sustainability was primarily about maintaining and ensuring the availability of a given resource. Today, however, the meaning has expanded. For a system or procedure to be considered sustainable, its future effects must be taken into consideration, not only in terms of resource availability, but also in terms of environmental, social, health, and ethical impacts or implications—meaning that if the general public finds the impacts of a system unacceptable, that system is considered unsustainable.[2] The world's citizens now insist on transparency in commercial and governmental activities and are using their purchasing power to change methods of producing various products.[3] This is especially true when a company fails to improve the animal welfare levels in its supply chain and products.[4] Accordingly, scientific evidence has increased the consideration of animal welfare in sustainability-focused protocols.[5] As consumer perceptions, market demands, and legislation concerning animal treatment change, companies that do not improve their practices risk losing market access.[6] Among other factors, the growing demand for better animal welfare has led to an increased adoption of cage-free practices among Indonesian poultry farmers.[7]

Approximately 5% of Indonesia's total egg production now comes from cage-free farms, with these figures expected to rise as consumer demand increases for ethical products.[8]

Several financial institutions recognize that long-term value creation is tied to sustainability, in terms of avoiding or reducing negative impacts on human welfare, animal welfare, or the environment.[9] Thus, resilient companies that want to thrive in the local and global markets must contemplate the needs and interests of different stakeholders, such as customers, employees, and suppliers.[10] For companies whose supply chains are linked to animal production, including animal welfare policies in their broader sustainability goals is key—not only for the companies concerned about developing sustainable food systems but also for their investors.[11] [12] [13] The absence of policies related to farm animal welfare can be a source of risk (e.g. of food recalls and media scandals).[14] Meanwhile, higher welfare standards provide potential opportunities connected with product differentiation, foster innovation, and forge entry into new markets.[15]

Recently, the Organization for Economic Co-operation and Development (OECD) incorporated provisions on animal welfare in its updated Guidelines for Multinational Enterprises on Responsible Business Conduct.[16] In addition, many initiatives are dedicated to heightening awareness

among financial institutions and investors.[17] Some examples are the FAIRR Initiative, which operates as a collaborative investor network focusing on risks and opportunities associated with intensive livestock production; the Business Benchmark on Farm Animal Welfare (BBFAW), which, among other roles, annually releases a Benchmark evaluating how 150 global food companies handle farmed animal welfare within their operations and supply chains;[18] and the Farm Animal Responsible Minimum Standards (FARMS) initiative, which proposes responsible minimum standards for policies by financial institutions.[19] Another initiative dedicated to safeguarding animal welfare within the financial sector is Sinergia Animal's Banks for Animals, a project that aims to bring more transparency to the financial sector. The goal is to raise awareness about the policies (or lack thereof) of banks and investors worldwide regarding credit and investments that do not comply with the most basic animal welfare requirements.[20]

In contrast to this fast-increasing demand for sustainable and ethical food production, some categories still face profound challenges rooted in their standard farming systems and practices. One strong example is the global egg production sector. Most laying hens worldwide are raised in battery cages,[21] an intensive system that confines several hens in cramped wire cages. Intensive confinement practices, including cages, usually result in significant and prolonged physical and mental suffering,[22] which severely compromises animal welfare.[23] [24] [25] [26] An extensive body of scientific evidence and animal welfare experts[27] have concluded that cages are inadequate for laying hens and a source of significant stress.[28] Transitioning to cage-free egg production systems is a growing demand and a vital step towards enhancing the welfare of sentient beings in companies' supply chains.

02 Pressing Challenges Facing Livestock Production

Food companies and the livestock sector have been the target of diverse criticisms, with major pressure for the adoption of more sustainable practices. This white paper highlights vital challenges in egg production, intending to help companies identify key demands concerning animal production and animal welfare so that they can move towards more socially acceptable and financially resilient business models. The factors presented below are aimed at a starting point for companies to become aware of the gaps and challenges they must address to stay competitive in a changing world.

The focus of the report is specifically egg production. Eggs are seen by many as an affordable source of nutritional value. However, battery-cage egg production has many animal welfare drawbacks.[29 30 31 32 33 34]
In addition to ethical issues, inadequate animal welfare policies can negatively impact a company's image, profitability, and ability to repay financiers. As consumer perceptions, market demands, and legislation evolve regarding the treatment of animals raised for food, companies that do not adopt future-proof systems and practices risk losing market access. Implementing policies to ensure higher welfare standards and reduce animal suffering is both ethically responsible and economically beneficial for businesses. [35]

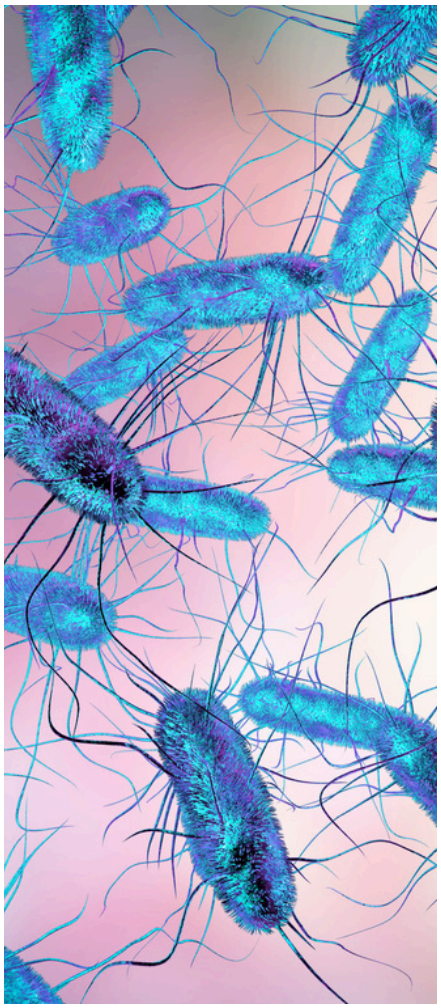
Caged system

Most laying hens worldwide, including the Global South, are raised in battery cages,[36] a very intensive egg-production system that confines hens in small wire cages. Each hen has a space smaller than an A4 sheet of paper and cannot walk or properly open her wings. The extreme confinement and lack of physical exercise commonly cause high levels of frustration[37] such as stereotypic back-and-forward pacing behaviour, feather pecking, or hysteria,[38] and a higher chance of developing osteoporosis. A thorough scientific analysis of the welfare experiences of egg-laying hens in battery cages[39] found that transitioning to cage-free systems is expected to prevent more than 7,000 hours of pain (an average of at least 275 hours of
of disabling pain, 2,313 hours of hurtful pain, and 4,645 hours of
and distress for each laying hen raised in a cage-free aviary instead of a battery cage.

Despite thousands of years of domestication, the primary behavioral repertoire of domestic chickens is fundamentally the same as that of their wild ancestors, the red jungle fowl.[40] [41] This means that, if given the opportunity, domestic hens will forage for many hours per day, build a nest, roost at night, dust-bathe, flap their wings, and explore the environment like their ancestors did.[42] In addition to this highly motivated inherited repertoire, there are physiological components that exacerbate these behavioral needs, such as hormone levels that drive the nesting behavior, or light and heat triggers that increase the need for dustbathing.[43] [44] In conventional battery-cage systems, the animals are deprived of performing any of these behaviors, due to lack of resources, opportunities, or simply the ability to move freely.[45] The impossibility of fulfilling these needs in battery-cage systems has been widely recognized as an important contributor to poor welfare.[46]

Culling of male chicks

Among many other animal welfare issues, the culling of newly hatched male chicks causes major ethical concerns for consumers. Since male chicks born in the egg industry have no economic value, they are usually killed through practices such as maceration (grinding alive) in the first hours of life. In Indonesia, male chicks are occasionally reared for meat consumption purposes[47] About 7 billion male chicks are killed per year.[48] New technology involving pre-hatching sex determination has been proposed as a promising alternative to reduce the number of one-day-old chicks killed. This would be more likely to be accepted by consumers as an ethical practice.[49]



Public health risks

There is growing concern that animals farmed in intensive systems can pose a significant risk of many emerging infectious diseases, including major epidemics and pandemics.[50] [51] [52] This is due to a combination of factors associated with intensive animal farming, including high stocking densities, genetic homogeneity, poor air quality, lack of sunlight exposure (and therefore longer pathogen survival), high levels of productivity (which diverts energy otherwise used by the immune system to growth and productivity), and immunosuppression associated with chronic stress. Consequently, intensively farmed animals are highly vulnerable to infectious diseases, including those representing a risk to human populations.[53] About 75% of emerging infectious diseases are "zoonotic," [54] [55] [56] meaning they are transmissible between humans and animals; this includes the various strains of human and avian influenza (bird flu), for example. Farm workers are on the front line of this risk, being the first to be exposed to zoonotic pathogens, while also suffering chronic respiratory issues from long-term exposure to dust, ammonia, and bioaerosols.[57] Communities living near industrial farms face additional risks from manure and wastewater runoff, which often contain pathogens and antimicrobial residues that pollute rivers and soils.[58]

Additionally, the disease vulnerability of intensively farmed animals also means that antibiotics must be used on a massive scale. Billions of animals, including healthy[59] ones, are treated with antibiotics to treat or prevent infections in the face of precarious conditions, high housing densities, and their fragile health. Over 70% of antibiotics

sold worldwide are used for animals raised on intensive farms.[60] This has contributed to the rapid emergence of antibiotic-resistant bacteria and affects the use of antimicrobials that are critical for human medicine.[61]

Indeed, the massive use of antibiotics in intensive animal farming has been identified as one of the main contributors to antimicrobial resistance (AMR) that threatens humans.[62] [63] [64] A study estimates that 4.95 million people died of diseases associated with AMR in 2019.[65] This number could rise to 10 million deaths annually by 2050[66] if the trend continues, which is more than cancer or diabetes.[67]

> **The impacts of animal farming are also present in terms of food safety. For instance, Salmonella is one of the leading causes of foodborne disease worldwide[68] [69] usually related to contaminated poultry or poultry products, such as eggs. The European Food Safety Authority[70] has conducted the world's largest study on this issue and concluded that cage systems have a higher prevalence of Salmonella than cage-free systems. According to the World Health Organization (WHO),[71] "non-typhoidal Salmonella spp. are estimated to cause 93.8 million cases of acute gastroenteritis and 155,000 deaths globally each year, approximately 85% of which are estimated to be foodborne."**

Other impacts

Food systems, a crucial aspect of our world, are deeply entwined with planetary health. The environmental impacts of current food systems have sparked discussions among decision-makers and international agreements worldwide.[72] In particular, the production of meat, fish in aquaculture, eggs, and dairy products requires 83% of the world's farmland but provides only 37% of the protein and 18% of the calories consumed by humans.[73] Equally concerning is that half of all protein produced worldwide is used as animal feed.[74]

The burden of zoonoses, antimicrobial resistance, and foodborne diseases falls disproportionately on low- and middle-income countries, where surveillance and healthcare systems are often less equipped to respond effectively.[75] Addressing these risks requires a One Health approach, which recognizes that human, animal, and environmental health are interconnected.[76] This approach has been endorsed globally by the World Health Organization (WHO), the Food and Agriculture Organization of the United Nations (FAO), the World Organisation for Animal Health (WOAH), and United Nations Environment Programme (UNEP).[77]

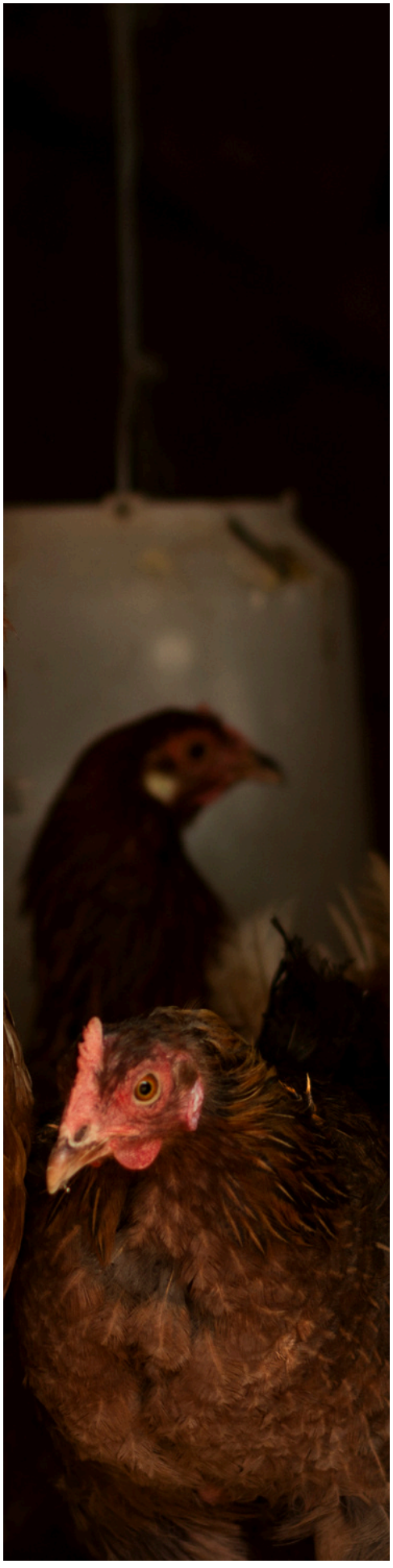
Several countries are already operationalizing this framework. For example, Indonesia has established a National One Health Team, which coordinates across ministries and extends its structure to provincial, district, and even village levels.[78] This decentralized system enables early detection, prevention, and rapid response to zoonotic diseases directly at the community level, ensuring that global health strategies translate into practical local action.[79] The One Health movement has also been taken up in academic institutions and universities. The One Health Collaboration Center (OHCC) is an independent institution established in member universities. Its goal is to integrate One Health research, academic, and community outreach programs into students' fields of study, opening their perspective to the world of One Health, where collaboration of multi-sectoral health professionals is an important base for an effective public health approach.[80]

03 New Markets Transformation By Consumers, Companies, and Governments

Consumers increasingly seek more information to make decisions consistent with their beliefs and support moving toward sustainable products. It is increasingly evident how animals in the industry are treated and that practices that cause pain and suffering are in non-compliance with consumers' concerns.[81] Consumer pressure grows as information about food production becomes increasingly available. For example, in 2020, the European Commission identified that 94% of all member states agreed that protecting the welfare of farmed animals is essential.[82] Studies on consumer perception have been published regarding countries of the Global South, including Argentina, Brazil, Bolivia, Chile, Colombia, Ecuador, India, Malaysia, Peru, and Thailand, highlighting the need for industry adaptation to ensure a sustainable future that considers stakeholders' interests.[83] [84] [85] [86] [87] [88] Despite the fact that knowledge about farming and animal welfare issues is relatively low in the studied countries, consumers often perceived the need to improve the welfare of farmed animals.[89] [90] According to researchers, "Although farmed animal welfare is a relatively new commercial phenomenon in South America, [...] results showed that concern for animals may be a universal human value, which can overcome traditional dichotomies between rich and poor or developed and undeveloped countries." [91]

In one study performed across 14 culturally, geographically, and politically diverse countries, including Bangladesh, China, India, Malaysia, Philippines, Thailand, and others from the Global South, most surveyed consumers stated that it matters that hens do not suffer in the process of producing the eggs they eat[92]—most would prefer to purchase eggs from cage-free hens.[93] Although cage-free eggs may not be readily available in some countries, this represents an optimistic market opportunity to move toward higher welfare and cage-free systems.[94] Understanding preferences and potential trends of consumer markets is a great opportunity for market development. Industry professionals and policymakers must recognize their role in driving these sustainable practices, as their actions can significantly impact the welfare of animals and the broader sustainability of food production systems.

Many countries have established legal frameworks governing animal health and welfare. In Southeast Asia, the Department of Livestock Development (DLD)[95] Thailand has established a voluntary, official certification standard for the cage-free egg production system. Farmers can choose to adopt this standard to meet growing consumer demand and increase the value of their products. In Indonesia, the Ministry of Agriculture plans to legitimize a regulation for animal welfare and also publish voluntary guidelines for its poultry production in 2023.[96] In addition to that, Good Animal Husbandry Practices (GAHP),[97] a regional and government-led initiative developed by the Association of Southeast Asian Nations (ASEAN), was created to harmonize standards for



livestock and poultry farming across all ASEAN member states, which currently include Brunei, Cambodia, Indonesia, Laos, Malaysia, Myanmar, the Philippines, Singapore, Thailand, and Vietnam. The purpose of GAHP is to facilitate cooperation among member countries and promote sustainable and responsible animal husbandry practices, including animal welfare.

The Brazilian Federal Constitution prohibits practices that subject animals to cruelty.[98] To that end, in Brazil, the Federal Environmental Crimes Law foresees mistreatment as a federal crime[99] and several Federal and State laws follow this in Brazil. In Argentina, animal cruelty is a criminal law part of the Criminal Code.[100] Argentinian jurisprudence also declared animals as "subjects of rights" in 2014 and referred for the first time to the concept of "sentience," which means the capacity of a creature to be emotionally affected by what it feels.[101] In Chile, federal law explicitly prohibits acts that cause unnecessary suffering or pain to animals. In 2017, the Chilean Penal Code was amended to increase penalties for animal cruelty, reflecting a growing concern for animal welfare in the country. In 2014, Thailand published a Prevention of Animal Cruelty and Provision of Animal Welfare Act, which defines animal cruelty as "an action or no action that causes an animal a physical or mental suffering, pain, illness, disability, or that may result in its death".[102] In 2015, the Government of Malaysia evoked the concept of the "5 Freedoms" in its Animal Welfare Act, proposing that animals are protected from unnecessary pain and suffering, fear, and inappropriate housing.[103]

In addition to these broad legal instruments, there has been an increase in legislative frameworks specifically regarding laying hens and the systems in which they are kept. Conventional battery cages for laying hens were first prohibited in Switzerland in 1992.[104] They have since been banned in various US states,[105] India,[106] Bhutan,[107] Australia,[108] New Zealand,[109] and throughout the EU.[110] Currently, there are four countries in Europe (Switzerland,[111] Austria,[112] Luxembourg,[113] and Iceland[114]) that already have a ban on both conventional battery cages and furnished cages and are therefore (or aim soon to be) entirely free from caged hens. Canada has also committed to gradually ending this type of confinement.[115]

Numerous corporations, collectively representing a substantial market share, have pledged to embrace elevated animal welfare standards in their sourcing practices. Chicken Watch, a tracker of corporate animal welfare commitments, highlights over 2,500 companies committed to transitioning to cage-free eggs worldwide. Sinergia Animal's Cage Free-Tracker Report Asia 2024[116] shows that around 21 global and Indonesian companies have completely switched to sourcing 100% cage-free eggs in Indonesia, including Chocolate Monggo, Hokkaido Baby, Kebun Roti, Little Garden, Lotus Mio Restaurant, Mediterranea Restaurant, My Little Warung, Potato Head, Via-Via Artisan

Bakery & Deli, Warung Bumi Langit, Yabbiekayu Restaurant. and Eco Bungalows, Yayasan Bringin. Based on the 2025 annual report (ongoing publication), only 21 out of 53 Subway outlets in Indonesia are currently 100% cage-free.

Meanwhile, in Malaysia, seven global and Malaysian companies have fully transitioned to sourcing 100% cage-free eggs in Malaysia or Asia, including Bridor, Carma, Danone, Dr. Oetker, Groupe Le Duff, Marks & Spencer, and The Hershey Company.[117] In Thailand, 12 global and Thailand companies have fully transitioned to sourcing 100% cage-free eggs including Akiyoshi, Baan Ying Family, Bite Me Softly, Danone, Go Coffee and Ice Cream, Groupe Le Duff, Kalpapruek, Lemon Farm, Marks & Spencer, Rena Bakery, Rotruedee, and Sunshine Market.[118]

The evolving landscape of consumer preferences,[119] [120] [121] [122] the growing number of corporations committing to higher animal welfare standards,[123] [124] and changing legislation across various countries mandating improved animal welfare practices all pose significant risks for companies resistant to these changes, including a possible loss of loans. Animal welfare conditions were included in the free trade agreement between the EU and New Zealand[125] and are a topic of discussion in the free trade agreement negotiations between the EU and Mercosur.[126] Companies that do not raise their standards may face the financial risk of losing domestic and international markets.

Countries and states are increasingly enacting legislation to phase out cages and crates, establishing additional minimum requirements for animal welfare.

In the EU, the highly successful "End the Cage Age" European Citizens' Initiative (ECI)[127] has prompted the European Commission to announce a historic commitment to revise the current EU legislation, aiming to phase out and eventually ban caged farming for all animals covered by the citizens' proposal, potentially by 2027. This initiative was signed by 1.4 million people across Europe and is the sixth most successful initiative since the EU launched this democratic tool 10 years ago.[128] [129]

04 A Better Future

In light of ongoing environmental and health crises, there is an urgent and compelling need for a paradigm shift in how food systems operate.

The "One Health, One Welfare, One Planet" concept is rooted in the understanding that humans, other animals, and the environment are interconnected and interdependent.[130] In practice, it means that stakeholders, including those in the food industry, must find solutions to better protect and sustainably support good health and well-being in the broadest sense now and in the future.[131] Consumers also play a pivotal role in making ethical choices by purchasing eggs from cage-free hens.

Considering consumer pressures and the increasing legislative framework, it is time for a global move towards cage-free eggs. This is crucial for egg producers to remain financially, ethically, and environmentally sustainable. It has become clear that the transition to cage-free egg production is not just a desirable goal but an urgent necessity. This shift is not only in the best interests of multiple stakeholders but also perfectly aligns with the values and expectations of consumers and society. The role of companies in this transition is pivotal, and it is their responsibility to act now.

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SINERGIA ANIMAL

ANIMAL FRIENDS JOGJA

ABOUT

Act For Farmed Animals is a collaborative initiative by Animal Friends Jogja and Sinergia Animal International to reduce the suffering of farmed animals in Indonesia and promote more compassionate food choices.

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