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Unsustainaburger:

SDGs and the links between

migrant labor, industrial livestock, and the environment

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Abstract

The meat-industrial-complex is a global production and consumption chain that systematically violates human rights, particularly those of workers, and degrades the environment. From food security and decent work to climate change and public health, industrial livestock operations and meat consumption patterns challenge the achievement of all 17 UN Sustainable Development Goals (SDGs) in ways that are cross-cutting and interconnected.[1] In this study, interdisciplinary data about the world's leading meat producers provide the empirical backdrop for a content analysis of the *2030 Agenda for Sustainable Development*. The Declaration and Goals themselves, SDG Partnerships, Voluntary National Reviews, and other reports are analyzed to discern the degree to which issues associated with industrial meat production, and their interconnectivity, are acknowledged. The results of the content analysis demonstrate that the SDG Framework expresses less concern with the interrelated impacts of industrial meat practices than the actual gravity of those impacts demands. Like other sampled communications, the Agenda also fails to address the unique relationship between decent work and the environment, a critical linkage for successful SDG implementation. Research that explores discrepancies between global problems and the focus of international political attention is necessary for the development of public policies that are coherent and address root-causes of socio-economic inequality and environmental degradation.

[1] UN General Assembly, *Transforming our world: the 2030 Agenda for Sustainable Development*, 21 October 2015, A/RES/70/1, available at: http://www.refworld.org/docid/57b6e3e44.html [accessed 2 March 2018]

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1.Introduction

United Nations member states have unanimously agreed to the landmark goals and targets enumerated in *Transforming Our World: the 2030 Agenda for Sustainable Development*. The Agenda replaces the Millenium Development Goals (MDGs) in what the former UN Secretary, General Ban Ki Moon, called a "social contract between the world's leaders and the people."[2] The shared goals set by the General Assembly organize around the concept of sustainable development, notably defined as "development that meets the needs of the present without compromising the ability of future generations to meet their own needs."[3] Building on this notion is the idea that mutually reinforcing pillars like "economic development, social development, and environmental protection - at the local, national, regional and global levels" can guide integrated decision-making.[4] Balancing the pillars means addressing intersectional challenges, and requires a comprehensive awareness of interlinkages.[5] The Agenda's preamble states that "the interlinkages and integrated nature of the Sustainable Development Goals are of crucial importance in ensuring that the purpose of the new Agenda is realized."[6] Sustainable development frameworks differ from traditional development paradigms in that they inherently deal with the interconnections between social, ecological, and economic factors. The 2030 Agenda represents an opportunity not only to elucidate significant interlinkages through global communication but to encourage actions and policies in governance and society that reflect the

[2] Sustainable Development Goals to kick in with start of new year. 2015. https://news.un.org/en/story/2015/12/519172-sustainable-development-goals-kick-start-new-year. [accessed March 10, 2018].
[3] United Nations, *Report of the World Commission on Environment and Development: Our Common Future*, 1987. :41.
[4] United Nations, *Johannesburg Declaration on Sustainable Development.* 2002. :1.
[5] United Nations, *Prototype Global Sustainable Development Report*. 2014. :28.
[6] UN General Assembly. *Transforming our world*. 2015. :4.

values of integrated problem-solving. It is therefore essential to learn whether the language of the Agenda and other vital documents conveys awareness of essential linkages so that the reach and depth of future communications can be assessed and optimized. This study contributes to the research on SDG interactions by exploring relationships between migration, labor exploitation, and environmental degradation in the meat industry and whether the Agenda addresses any of the critical interconnections associated with this sector and its impacts.

Epitomizing the full range of economic, social, and environmental challenges targeted in the SDGs, the meat-industrial-complex and its fundamental reliance on the exploitation of migrant labor and natural resources represents the kind of intersectional sustainability challenge that the Agenda will face in the next 15 years. This research contributes to the advancement of intersectional policy solutions and human-rights based approaches to sustainable development by asking whether the 2030 Agenda acknowledges the prevalence of migrant labor and natural resource exploitation in the meat industry. In pursuit of this query, broader questions arise: does the Agenda recognize the nexus between labor, migration, and environmental dimensions of development, and does it acknowledge how livestock production operates at ecologically unsustainable production and consumption levels?

This project looks at leading livestock production practices to establish an empirical base for assessing the Agenda's awareness of interconnections.[7] Examples from Brazil and the U.S demonstrate a range of intersectional sustainability challenges and point to essential links between decent work and environmental protection. A content analysis then considers the purpose of the documents and explores the language and themes therein, bearing in mind the

[7] United States Department of Agriculture, *Livestock and Poultry: World Markets and Trade.* 2017. https://apps.fas.usda.gov/psdonline/circulars/livestock_poultry.pdf. [accessed 10 March 2018].

interlinkages relevant to the research question. The theoretical framework will elaborate on some guiding concepts of the labor-nature nexus and SDG interconnectivity and will build on the following introductory exploration of sustainable development and its evolution as a concept.

Sustainable Development

Sustainable development is a phrase composed of two distinct concepts: sustainability, and development, each with various connotations and meanings. Decades of discourse concerned with the semantics, etymology, and history of these concepts have revealed their rhetorical unity to be fraught with logical inconsistencies and seemingly inexorable contradictions.[8] Early criticism of its ambiguity dates back to the phrase's legitimization by the Brundtland report and the reinforcement of its usage at subsequent global conferences on the environment like the 1992 Earth Summit in Rio and the 2002 World Summit for Sustainable Development in Johannesburg. The weaknesses of sustainable development as a concept and rhetorical device continue to haunt the latest political attempt at an international sustainability framework, the 2030 Agenda, which can be criticized for acquiescing to outdated and detrimental development paradigms rather than challenging the overly economic orientation of sustainability in policy circles.

The phrase itself does not specify what should be sustained, many say, allowing users to imbue it with meanings that animate their own interests and beliefs and rendering it virtually meaningless.[9] The close association between economic growth and traditional forms of development, to the point of term interchangeability, for example, can result in an unhelpful interpretation of the phrase that suggests we should be sustaining economic growth, rather than the habitability of the natural environment. Also associated with development, is the idea of

[8] Pisani, Jacobus A Du. 2007. "Sustainable Development – Historical Roots of the Concept." *Environmental Sciences* 3 (2): 83–96.

[9] Lele, Sharachchandram. 1991. "Sustainable Development: A Critical Review." *World Development* 19 (6): 607–21.

human progress and the continuous satisfaction of basic needs, which invites a social dimension into the discourse that can invigorate the prioritization of humanity over the sustainability of the natural environment as if the two were not seamlessly interconnected.

Without a centralized connotation, the phrase has allowed its users to obfuscate priorities. Thus it is not without its merits as a political instrument; the versatility of meaning facilitates compromises between opposing interests and appears, given its widespread usage, to have rhetorical value in policy circles and at the international level. The conventional use of the phrase generally alludes to the durability of limited natural resources and the long-term maintenance of an ecological order that supports human life. The conceptual interpretation that dominates academic language today describes a three-pronged view of sustainable development, which envisions society, the economy, and the environment as core spheres of human existence through which needs are met. Usually the environment and economy emerge from political and scientific debates as the most critical aspects, but considering the three pillars equally vital and exchangeable is in itself problematic when all social activity, of which economy decision-making is only a part, takes place in the broader natural circumstances that determine possibilities and limitations.

A compelling argument also exists for culture to be considered among the fundamental pillars of sustainable development. As a portion of the international market, scholars demonstrate, the cultural sector reflects an imperialistic trade imbalance.[10] Cultural goods and services like films, books, and movies flow inequitably between global North and South, resulting in an eclipse of indigenous cultures by the overwhelming proliferation of Western

[10] Nurse, Keith. "Culture as the fourth pillar of sustainable development." *Small states: economic review and basic statistics* 11 (2006): 28-40.

content and hegemony over intellectual property. Cultural hegemons shape values, myths, identities, and meanings, a reality that reinforces the value of progressively re-defining sustainable development and challenging pervasive biases. Culture has the power to determine how humans understand their relationship with each other and with the natural environment, it can inform choices and is a critical lens through which the "needs" of individuals and groups are assessed and satisfied.

Thus, dominant cultural notions of development centered on economic factors like growth and productivity suggest that states considered underdeveloped, in following the blueprints of the most financially and materially affluent cultures, must aim for social and economic realities that require industrial levels of consumption and waste generation. Externally imposed cultural associations, backed by socio-economic structures that prioritize economic growth despite steep material and social costs, can inflate the demand for perceived needs that must then be met at the expense of others' needs. The most developed countries currently consume an excess of animal-based-protein, for example, and dietary trends in emerging market countries have seen a massive surge in the demand for livestock products, an increase commensurate with income and economic growth.[11] The overconsumption of animal products by wealthier groups reinforces an influential cultural association between meat, wellness, and economic mobility.

The prioritization of one pillar over another is the primary issue with describing the economy, environment and society as separate, co-equal, and autonomous areas of activity. A sense of false separation obscures the interlinkages, connections, and layers connecting these spheres of life. To achieve cross-sectoral impact, sustainable development theories need to be

[11] Sans and Combris, "World Meat Consumption Patterns," 2015:109.

essentially integrated and holistic, not linear or hierarchical.[12] The rhetorical shift over the last twenty years from "needs" to "rights," some scholars posit, strengthens the focus on interlinkages between human and natural systems; a defining feature of the 1992 Earth Summit, for example, was the emphasis partnerships between environmental groups and businesses.[13] However, there are others who remain deeply skeptical of the phrase and the forums through which the value of its various possible meanings are weighed and evaluated. A notable concern emerges that international sustainable development frameworks, and the processes by which they are defined and implemented, can serve as a third wave of colonization that promulgates imperialistic natural resource management methods informed asymmetrically by the scientific insights of financial, military, and cultural hegemons while suppressing indigenous knowledge of and access to resources.[14]

The cultural aspects of the human relationship to meat also affect those who work in production chains, not only mentalities around consumption. Fitzgerald (2006) contours the negative characterizations of meatpacking workers, alluding to the historical exclusion of butchers from jury duty due to the general perception that they were cruel and backed by references by the economist Adam Smith, who considered meat-processing both brutal and odious. Using the meat-worker as a scapegoat for disgust and discomfort, Fitzgerald explains, has long been a method of concealment by which the consumer further distances himself from the act of slaughter and rationalizes the brutality by which they satisfy their needs and desires.

[12] Giddings, Bob, Bill Hopwood, and Geoff O Brien. 2002. "Environment, Economy and Society: Fitting Them Together into Sustainable Development." *Sustainable Development*, no. 10: 187–96.
[13] Redclift, Michael. 2005. "An Oxymoron Comes of Age." *Sustainable Development* 227 (July): 212–27.
[14] Banerjee, Subhabrata Bobby. 2003. "Who Sustains Whose Development? Sustainable Development and the Reinvention." *Organization Studies* 24 (1): 143–80.

Concealing the responsibility of the individual economic actor for the suffering of animals, workers, and the degradation of the environment is part of a cultural schema in which producers and consumers are complicit collaborators, satisfying perceived needs at the expense of actual needs, like nutritional balance from a diverse diet.

Considering these disparities, a growing push for "sustainable diets" has emerged and gained traction.[15] Sustainable diets encompass an understanding of the agricultural origins of the food we consume and a critical assessment of the environmental, social, and cultural impacts of those processes when making choices. When it comes to dietary habits, the role of social norms and culture cannot be understated, as they are linked with commonly held nutritional conventions, however accurate, and frame the ongoing tensions between eating habits, food preparation methods, affordability, and access in the face of competition from global markets with the power to crush local staples and small-scale production. Despite their crucial relevance to the topics explored here, the cultural implications of meat production and the international labor migration systems that uphold it will not be explored in depth and sustainability will be primarily discussed using the three-pillar model.

Doubling down on the universal operationalization of sustainable development, a concept which continues to be debated and refined, the 2030 Agenda builds on an existing tradition of communication whose fundamental flaws can be difficult to reconcile. It is therefore important to continue establishing an integrated theoretical framework for sustainable development and an

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[15] Johnston, Jessica L, Jessica C Fanzo, and Bruce Bogil. 2014. "Understanding Sustainable Diets: A Descriptive Analysis of the Determinants and Processes That In Fluence Diets and Their Impact on Health, Food, Security, and Environmental Sustainability." *American Society for Nutrition* 5 (4): 418–29.

accompanying vocabulary that requires placing the political emphasis on economic growth in perspective and paying more attention to interlinkages between economic, environmental, and social dynamics.

2.Theoretical Frameworks

Faced with complex, overlapping global challenges, the SDGs and their effectiveness as policy instruments face continued scrutiny. An ongoing debate questions whether the SDGs are balanced, or whether they emphasize the economic and environmental dimensions of sustainable development more emphatically than social aspects, poorly expressing interlinkages between them.

2.a Interconnectivity

A widely discussed aspect of the 2030 Agenda is its potential for interconnected and integrated action. Criticism is leveled against the placement of the goals on what appears to be equal footing, which problematizes the strategic prioritization of the most interconnected goals, like SDG 12, changing unsustainable production and consumption patterns.[16] The SDG framework, some posit, fails to articulate interlinkages between goals and targets in an actionable way. [17] The fragmentation of goals into 17 distinct areas with insufficient emphasis on overlapping aspects makes it possible for financiers of country-agendas to focus disproportionately on some pillars of sustainability more than others, threatening the intersectional balance needed to address root problems.[18]

[16] Le Blanc, David, "Towards Integration at Last? The Sustainable Development Goals as a Network of Targets," 2015.UN DESA Working Paper No. 141. Vol. 1. ST/ESA/2015/DWP/141.
[17] Lempert. 2017. :126.
[18] Ibid., :125.

Several studies look at connections between goals and question their prioritization and relationship to each other. Le Blanc associates the 169 targets to each of the goals in a network connectivity analysis and concludes SDG 12, "Ensure sustainable consumption and production patterns," is the most interconnected goal, followed by SDG 10, "Reduce inequality within and among countries.'[19] The third most pivotal SDG, he finds, is a tie between SDG 1, "End poverty in all its forms everywhere," and SDG 8, "Promote sustained inclusive and sustainable economic growth full and productive employment and decent work for all." The proximity between decent work and poverty in the results of the connectivity study supports the International Labor Organization's claim that poverty and decent work are intrinsically connected.[20] If Le Blanc's assessments are valid, then some goals are more connected to the rest than others and can, therefore, serve vehicles for integrated policy-making. Interconnectivity analyses support the SDG framework by elucidating relationships that challenge the need for trade-offs between goals and guide meaningful action.

To systematize the quantification of SDG interconnectivity, Pradhan *et al.* (2018) conduct a statistical analysis of indicator data from 227 countries, describing interactions between goals regarding synergies and tradeoffs.[21] According to the study, which carries out a correlation analysis between unique pairs of indicators over time and ranks them, the "attainment of the SDG agenda will greatly depend on whether the identified synergies among the goals can be leveraged" and trade-offs negotiated.[22] Their findings suggest there are more synergies among

[19] Le Blanc. 2015. :1.
[20] International Labour Organization (ILO), *ILO Declaration on Fundamental Principles and Rights at Work*, June 1988, available at: http://www.refworld.org/docid/425bbdf72.html [accessed 11 March 2018].
[21] Pradhan, *et al.* 2018. "A Systematic Study of Sustainable Development Goal (SDG) Interactions Earth's Future." *Earth's Future*: 1169-1179.
[22] Pradhan *et al.* 2018, :1171.

SDGs than tradeoffs, but not equally across goals. Of the SDGs most positively correlated with the progress of others, many were socio-economic: SDG 1 (no poverty), 3 (good health and well-being), 4 (quality education), 10 (reduced inequalities), and 13 (climate action). Whereas economic and environmental goals are often associated with trade-offs: SDGs 7 (affordable and clean energy), 8 (decent work and economic growth), 9 (industry, innovation, and infrastructure) and 15 (life on land). According to the study, high synergies result from SDGs sharing multiple indicators, whereas the trade-offs largely reflect a paradigm of development that requires deep environmental footprints.[23]

The goal associated with the most trade-offs in the study, is SDG 12 (responsible consumption and production), a finding that corroborates the interconnectedness of SDG 12 noted by Le Blanc. The repeated salience of this goal confirms an underlying hypothesis of this research project: focusing on the social and environmental impacts of industrial meat production is integral to the holistic achievement of the Agenda. Overall, the literature suggests that the SDGs are more synergistic and interconnected than not, which preserves their utility as an instrument of policy-guidance and issue framing, but only if language and policies can break away from assumptions that social and economic development necessitate environmental degradation and labor exploitation. There is a notable academic concern with the divergence of the SDGs from established international human rights legal norms, its emphasis on economic growth, and the presence of contradictory visions for sustainable development.[24] One such concern is the function and treatment of the human right to decent work and a healthy environment in the language of international politics, which raises doubts concerning the

[23] Ibid,. 1174.
[24] Frey, Diane, and Gillian MacNaughton. 2016. "Decent Work, Human Rights, and the Sustainable Development Goals." *Georgetown Journal of International Law* 47 (2): 607–33.

willingness to hold the right sectors, corporations, and groups accountable for unsustainable decisions and their multi-dimensional consequences.

2.b Labor Environmentalism

Labor environmentalism is a concept and an alliance that addresses the relationship between workers and nature, considering the two as integrated parts of the complete, or total, human environment. Observers point to the political mobilization of workers and environmentalists as being rooted in the same source, shared interests in reducing the hazardous effects of production, resisting neo-liberal trade agreements, and countering the labor and environmental violations perpetrated by multinational corporations.[25] The involvement of workers in development issues is critical because these individuals and their communities are the first to experience industrial pollution, pesticides, chemicals, biological substances. Their critical role in supply chains makes them vulnerable to physical and psychological harm that can spell socio-economic trouble in their communities. The vulnerability of workers on the front lines of unsustainable practices is historically evidenced in vital sectors like logging, agriculture, mining, fishing, manufacturing, and construction, contributing to the perception of labor as the "weakest link" in production processes characterized by increasing yields at the expense of the human environment.[26] If labor is the weakest link in unsustainable production processes, reforming the norms by which it is regulated and considered is critical to the transformation of the system as a whole.[27]

[25] Silverman, Victor."Green Unions in a Grey World: Labor Environmentalism and International Institutions." *Revue Belge de Philologie et D'histoire* 84 (4) : 1123–39. 2006:194.
[26] Silverman. 2006. :193.
[27] Obach, B. K. (2004). New labor: Slowing the treadmill of production? *Organization & Environment*, 17, 337-354.

Dating back to the first global conferences on the environment, union representatives have made a case for a holistic vision of labor that considers humans as one with ecological systems. They argued that the simultaneous suffering of workers, animals, and nature are interdependent aspects of the total human environment consisting of the workplace, the home, community, as well as broader social, economic systems.[28] Addressing interconnectivity means resisting artificially imposed boundaries between different spheres of life, or between bodies and spaces, and enabling a broader, more cross-cutting consideration of solutions. What unionists explained in 1972 at the UN Conference on the Human Environment was that adverse labor conditions are a precursor to degrading effects on the broader economic and social environment.[29]

Thus, encouraging economic growth and technological development without encompassing social and ecological systems exacerbates disequilibrium among the pillars of sustainable development. The labor-environmentalist paradigm is critical for integrated implementation of SDGs. Given their marked role in food systems, migrant workers are on the front lines of resource extraction through systemic animal abuse, deforestation, interaction with toxic waste and other unsustainable practices that destabilize ecosystems at the global level.[30] High rates of occupational injury and disease, inadequate remuneration, and marginalization in the sector are the socio-economic symptoms of environmental degradation. Decent work is, therefore, not only a human right but a multi-dimensional concept that links employment, socio-economic progress, and the environmental protection.

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[28] Silverman, Victor,. "Sustainable Alliances: The Origins of International Labor Environmentalism," *International Labor and Working-Class History*, no. No. 66, New Approaches to Global Labor History (Fall, 2004): 123.
[29] Silverman, "Sustainable Alliances," 2004:124.
[30] Weis, Tony. *The Ecological Hoofprint*. London: ZED BOOKS LTD, 2014.

The International Labor Organization posits that decent work is the best way to avoid a life of poverty, the eradication of which is the Agenda's first goal. [31] Fundamental labor rights that define decent work include freedom of association and right to collective bargaining, the abolition of forced labor, elimination of discrimination in employment, and the abolition of child labor.[32] The importance of universally established labor standards rests on the premise that unjust conditions can produce unrest grave enough to threaten world peace and security. Jobs characterized by low productivity, demoralization, danger, and inadequate remuneration can likewise intensify problems that threaten social and ecological imbalance.[33]

The Agenda's use of the term "decent work" has been studied and problematized.[34] Particularly, the coupling of decent work and economic growth in SDG 8: "Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all." Attaching decent work to a growth-agenda signals to some that the SDGs consider full employment and decent work to be a function of economic growth, rather than a human right. [35] If the growth of corporations and wealth is prioritized, the Agenda risks perpetuating traditional methods of production reliant on labor exploitation; market-oriented approaches may see governments not as human rights duty bearers, but as "enterprise enablers."[36] Some economists suggest that sustainability may only, in fact, be achieved through a steady state of "de-growth."[37]

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[31] ILO. Decent Work, the key to poverty reduction. http://www.ilo.org/global/topics/poverty/WCMS_396219/lang--en/index.htm. [accessed March 7, 2018].

[32] ILO. Conventions and Recommendations. http://www.ilo.org/global/standards/introduction-to-international-labour-standards/conventions-and-recommendations/lang--en/index.htm. [accessed March 7, 2018].

[33] Frey and MacNaughton, 2016: 607-633.

[34] Frey, Diane. 2017. "Economic Growth, Full Employment and Decent Work: The Means and Ends in SDG 8." *International Journal of Human Rights* 21 (8). Taylor & Francis: 1164–84.

[35] Ibid,. 1174.

[36] Ibid., 1165.

[37] Lempert, 2017: 172.

For purposes of the content analysis conducted in this study, general calls for economic and productivity growth are distinguished between large-scale global industries and small-scale, localized livestock operations, which demand different sustainability strategies.[38] Further clarifying the unique challenges of industrial processes, this study focuses on Brazil and the US' mass-production of livestock.

4. Interconnectivity of Industrial Meat

Industrial livestock and meat processing affect food security, poverty, inequality, climate change, and the most interconnected goals of the 2030 Agenda.[39] Evidence from countries leading global production shows that exploitative dynamics in the labor, migration, environment nexus are critical to the generation of surplus in the meat industry and are an integral part of industrial growth-strategies.[40]

4.a United States

Meatpacking was the first industry in the U.S. to utilize assembly-line technology, revolutionizing mass-production.[41] The urban packing plants of the early 20th century represented an extreme distancing from natural processes of production. Consumers were spared the sights and sounds of slaughter and morally separated from the increasingly abusive methods, a disassociation with profound implications for workers, animals, and the environment.[42] Plant

[38] Abraham, Mathew, and Prabhu Pingali.. "Transforming Smallholder Agriculture to Achieve the SDGs." *The Role of Small Farms in Food and Nutrition Security*, 2017: 1–41.
[39] FAO. 2016. S*ynthesis – Livestock and the Sustainable Development Goals: Global Agenda for Sustainable Livestock.* FAO, Panama.
[40] Champlin, Dell, and Eric, Hake. "Immigration as Industrial Strategy in American Meatpacking." *Review of Political Economy* 18 (1) 2006:49–69.
[41] Fitzgerald, Amy, "SPILL-OVER FROM 'THE JUNGLE' INTO THE LARGER COMMUNITY: SLAUGHTERHOUSES AND INCREASED CRIME RATES," Michigan State University.2006: 18-19.
[42] Ibid., :22.

workers, about half of whom were immigrants, lived in squalid conditions of poverty and pollution in the slums adjacent to the plants.[43] In this regard, workers' immediate workplace, home, and community environments foreshadowed the adverse effects of industrial livestock production on the extended ecosystem. The shared suffering fostered pro-union sentiments, and in the first half of the century, meatpacking unions became increasingly influential, ultimately delivering the highest industrial wages in the country. By the 1960's, over 95% of slaughterhouse workers in the Northern states belonged to a union.[44] Collective bargaining strength waned, however, as the meat-sector migrated to the anti-union rural spaces of the South and Midwest and new technologies increased production rates per worker; [45] whereas 179 cattle could be killed each hour on the fastest line in the 1970s, the lines in 2006 averaged 400 hourly slaughters.[46] The increase in productivity has had profound social and environmental consequences and widened the gaps in meat production and consumption inequality. [47]

Global disparities in consumption across countries and groups are reflective of a range of socio-economic inequalities, but they also exacerbate them.[48] For the so-called Western-diet, an over-reliance on animal products results in a trend toward increased intake of fat. [49] Economic incentives of cheap, readily available meat, and cultural perceptions of its nutritional value derived in part from industry-funded advertisements and studies have placed meat and animals at

[43] Ibid., :19.
[44] Ibid., 20.
[45] Broadway, Michael, "Meatpacking and the Transformation of Rural Communities: A Comparison of Brooks, Alberta and Garden City, Kansas," *Rural Sociology* 72 (4). 2007: 560–82.
[46] Fitzgerald, 2006. :30
[47] Gouveia, Lourdes, and Arunas Juska,. "Taming Nature, Taming Workers: Constructing the Separation between Meat Consumption and Meat Production in the US," *Sociologia Ruralis*. 2002 42 (4): 370–90. :371
[48] Weis, Tony. The Ecological Hoofprint. 2014.
[49] OECD-FAO. 2017. *Agricultural Outlook 2017-2026*. p.15 doi:http://dx.doi.org/10.1787/agr_outlook-2017-en.

the top of the menu in the United States, where 67% of dietary protein comes from animal derivatives.[50] Animal products and their high content of saturated fats, contribute to higher rates of chronic illness including cardiovascular diseases, diabetes, strokes, and cancers.[51] In the United States, annual per capita consumption of meats is more than 80lbs what is recommended by the American Heart Association.[52] There are, however, considerable benefits of meat consumption for low-income iron-deficient populations, one being that small amounts of meat facilitate the absorption of plant-based nutrients and improve an undernourished person's nutritional state. [53] Developing sustainable food systems requires addressing consumption patterns in places where cultural demand for cheap meat enables unsustainable human and natural resource management strategies.

The perceived trade-off between decent work and economic growth comes into full display in the meat industry, which, while continuously growing, has some of the highest rates of workplace injury and disease, and pays some of the lowest wages.[54] The social and environmental costs of slaughterhouses and feeding operations also include strains on local infrastructure and increased levels of crime.[55] The distance between consumers and methods of meat production discourages accountability and oversight; it also dilutes the responsibility of making sustainable consumption choices. [56] To develop responsibly, means of production reliant

[50] Walker *et al.*. Public health implications of meat production and consumption. *Public Health Nutrition, 8*(4), 2005: 348–356.
[51] Bouvard *et al.* "Carcinogenicity of consumption of red and processed meat." *The Lancet Oncology, 16*(16), 2015: 1599–1600.
[52] Walker *et al.*. Public health implications of meat production and consumption. 2005:349.
[53] Ibid,. :349.
[54] US. Bureau of Labor Statistics. Occupational employment statistics, occupational employment and wages, May 2012.[accessed 11 March 2018]. http://www.bls.gov/oes/current/oes513022.htm.
[55]Fitzgerald, 2006. :34.
[56]Ibid., :18 .

on abuse and exploitation need interdisciplinary attention and cohesive restructuring.[57] One exploitative industrial strategy in the meat sector that challenges all pillars of sustainability is the debasement of migrant labor. **Immigration Policy as Industrial Labor Strategy**

Globally, migrants represent a vulnerable workforce, and their prevalence in extractive industries makes them powerful change-agents in the development of sustainable practices. Subject to placement in low-skilled positions and weak bargaining power, undocumented workers in the U.S. earn around 30-40% less than their documented counterparts.[58] Management can weaponize their economic and legal status to break up strikes, retaliate against worker leaders, and steal wages while threatening deportation and arrest.[59] In Postville, Iowa, site of the most substantial immigration enforcement sting in the history of the meat-sector, agents sentenced, in a single day, 260 workers to prison for obtaining jobs with fraudulent documentation. Twenty workers were found to be younger than the legal working age and described working shifts of over 12 hours without paid overtime, common industry features that violate multiple international labor standards.[60]

Obstructing or complicating the right of migrant workers to collectively bargain for improvements in their total environment results in continued damage to natural resources. Business interests can more efficiently repress environmental regulations without strong labor-environmentalist pushback and continue using unsustainable methods of mass production, like

[57] Weis, Tony. *The Ecological Hoofprint*. London: ZED BOOKS LTD, 2014.
[58] Alves Pena, Anita, "Legalization and Immigrants in US. Agriculture," 2007:1-34.
[59] Gastón, María Teresa, and Wayne Harrison, "Meatpacking Workers' Perceptions of Working Conditions, Psychological Contracts, and Organizational Justice," 4 (1): 57–76. 2012:59.
[60] Haedicke, M A. "From Collective Bargaining to Social Justice Certification: Workers' Rights in the American Meatpacking Industry." *Sociological Focus* 46 (2): 119–37. 2013:120

the market-dominating concentrated animal feeding operations (CAFOs).[61] These behemoth industrial farms control the complete production cycle of meat: breeding, slaughter, processing, and packing. CAFOs are dependent on vast amounts of fossil fuels, water, massive monoculture plantations to produce animal-feed, a practice known to cause soil exhaustion and biodiversity loss.[62] CAFOs generate a colossal amount of environmental waste in the form of manure, carcasses, urine and other matter, generating around 5 tons of animal waste per person annually in the United States, much more than can be absorbed as fertilizer for feed-crops.[63] Wastewater from industrial farms raises levels of nitrogen, phosphorous, heavy metals, pathogenic bacteria, and other substances in nearby soil and water sources (the same pollution that workers come into contact with on a daily basis).[64] Given the substantial impact industrial livestock has on individuals, communities, and the planet, meat production should be acknowledged, whenever possible, as a multifaceted global development problem to be solved.

4.b Brazil

In 2016, agribusiness represented around 21% of Brazilian GDP, with livestock accounting for 30% of that share.[65] Closely associated with the meat-complex, is Brazil's top export: soybeans, the primary protein used in animal feed, and one of the leading causes of deforestation in the Amazon.[66] As the world's second largest global exporter of beef (after the

[61] Walker, Polly, Pamela Rhubart-Berg, Shawn McKenzie, Kristin Kelling, and Robert S Lawrence. 2005. "Public Health Implications of Meat Production and Consumption." *Public Health Nutrition* 8 (4): 348–56. :351.

[62] Moore, Jason W. 2003. "The Modern World-System as Environmental History? Ecology and the Rise of Capitalism," 307–77. :308.

[63] Walker, *et al*. 2005. "Public Health Implications of Meat Production and Consumption." :351.

[64] Powles *et al.* 2007. "Food, Livestock Production, Energy, Climate Change, and Health." *The Lancet.* 370: 1253–63.

[65] ABIEC. 2016. "Profile of Livestock in Brazil." *Relatório Anual 2016*, 46. Accessed 8 March 2018 at: http://www.abiec.com.br/Sumario.aspx.

[66] Nepstad *et al.* 2014. "Slowing Amazon Deforestation through Public Policy and Interventions in Beef and Soy Supply Chains." *Science* 344 (6188): 1118–23.

US) Brazil's commercial cattle herd is the largest on earth, over 170 million heads.[67] The proliferation of cattle ranching and livestock production in the Amazon has been made possible in part by population transfers to fill labor shortages. [68]

Internal Migration as Development Policy

Considerable cattle ranching and livestock production take place in rural areas with limited labor pools and a low levels of law enforcement, like the Amazon basin.[69] With the aim of encouraging economic growth through the extraction of natural resources, government policies periodically directed (and sometimes forced) people displaced by environmental insecurity, new technologies, and other socio-economic factors to move to resource-rich states in the Amazon and convert forest to farmland and pasture. Migrations to the Amazon can be characterized by the demand for cheap labor in environmentally unsustainable development projects in isolated regions.[70]

As in much of the world, the most menial, demanding, and low-paying jobs available in Brazil are reserved for those with the lowest level of education and bargaining power.[71] The migrants traversing Brazil for employment in agriculture and livestock production are not unlike international migrants in that they are vulnerable to long working hours, poor living conditions, inadequate nutrition, health concerns, work-related injuries, and discrimination. [72] Jobs likely to

[67] Bustamante *et al.* 2012. "Estimating Greenhouse Gas Emissions from Cattle Raising in Brazil." *Climatic Change* 115 (3–4): 559–77. :560.
[68] Carr, David. 2009. "Population and Deforestation: Why Rural Migration Matters" 33 (3): 355–78. :363
[69] Diegues, Antonio Carlos, Edna Castro Brent Millikan, LaTa Ferraz, and Jean Hebette,. "Deforestation and Livelihoods in the Brazilian Amazon." Sao Paulo: Center for Research on Human Population and Wetlands University of Sao Paulo. 1997.
[70] Garfield, Seth. "The Environment of Wartime Migration: Labor Transfers from The Brazilian Northeast to the Amazon During World War II." *Journal of Social History* 43 (4). 2010: 989–1019.
[71] Jones, Terry-ann. "Migration Theory in the Domestic Context North-South Labor Movement in Brazil." *Human Architecture: Journal of the Sociology of Self Knowledge* 2 (4) 2009: 5–14.
[72] Jones, Terry-ann, "Migration Theory in the Domestic Context…" 2009 :12.

be performed by domestic migrants in scarce labor regions like the Amazon include forest clearing for pasture and work in slaughterhouses, where high levels of illness and precarity are experienced.[73] Marginalized and cheapened, the threat of debt-bondage and forced labor looms large for workers in remote cattle ranches and farms. According to the Ministry of Labor, over 50,000 enslaved workers have been liberated from captivity in Brazil in the last 20 years, though enforcement in remote regions can be weak and rates of recidivism (workers returning to conditions of slavery) high.[74] According to abolitionists, workers become prisoners not only to poverty, disease, coercion, and remoteness, but are plagued by social alienation and profound shame; beyond their physical and mental states, these populations require social, economic, and environmental rehabilitation.[75]

Pasture conversion, abetted by cheap labor, is responsible for three-quarters of all deforested land in the Amazon.[76] Cattle now accounts for half of Brazil's total greenhouse gas emissions.[77] Changes to industry operations thus represent an opportunity to mitigate climate change, and some researchers are calling for interventions in the beef and soy supply chain as a means of reversing adverse environmental effects.[78] Another should be the increased enforcement of existing human rights and international labor standards as a sustainability policy. Given the scale of impact, we should expect sustainable development agreements and communications to address

[73] Le Breton, Binka. *Trapped: Modern-day slavery in the Brazilian Amazon*. West Hartford, CT: Kumarian Press, 2003.

[74] Ministerio de Trabalho. 2017. "Key Findings and General View of the Digital Observatory of Forced Labor." Observatorio Digital do Trabalho Escravo. Vol. 1.0.

[75] Antero, Samuel a. 2008. "Monitoring and Evaluation of the Forced Labor Eradication Program" *Revista de Administração Pública* 42 (5): 791–828. :796.

[76] Walker, Robert, John Browder, Eugenio Arima, Cynthia Simmons, Ritaumaria Pereira, Marcellus Caldas, Ricardo Shirota, and Sergio de Zen. 2009. "Ranching and the New Global Range: Amazônia in the 21st Century." *Geoforum* 40 (5). Elsevier Ltd: 732–45.

[77] Bustamante *et al.* 2012.

[78] Nepstead *et al.* 2014.
Cederberg *et al*.. "Including Carbon Emissions from Deforestation in the Carbon Foot Print of Brazilian Beef." *Environmental Science & Technology* 45 (5)2011 :1773–79.

livestock explicitly, rather than conflating it with other forms of agriculture and food, and to recognize the inequalities between large and small-scale production. To inspire integrated policies that make exploitative practices less profitable, the SDG Framework can encourage collective bargaining power through its partnership implementation mechanism and call for increased oversight of labor violations at the national and local levels and in critical sectors that pose steep environmental challenges, considering labor abuses as indicators of other environmentally unsustainable practices. A content analysis of the Agenda and supporting documents can help determine whether the SDGs present a balanced vision of sustainability by acknowledging the interlinkages described here.

5.Methodology

A basic content analysis is a primary method for evaluating the occurrence of themes and terms in a given communication; it is a technique for distilling "objective systematic, and quantitative" description of communications and their content through frequencies.[79] A simple frequency count is the basis for this analysis, demonstrating degrees of representation and presence of themes in the sample. Basic content analysis is a descriptive research approach that can document social problems and be used as "evidence from which to abductively advocate for change." [80] As the building blocks of communication, the meaning and usage of words is an essential point of analysis. For higher accuracy and speed, documents were placed into NVivo where a query for key-terms and their synonyms was run (when synonyms included out of context results, a query for stemmed or exact terms was used instead). Term frequencies (the themes underlined in the tables are treated as input terms in NVivo) are presented in their

[79] Berelson, Bernard Reuben. *Content analysis in communication research*. New York: Hafner. 1971:18
[80] Drisko, James, and Tina Maschi.. *Content analysis*. Pocket Guides to Social Work Research Methods. 2015:1

entirety in the Annex. To further interpret the results, context and usage of terms are considered. Guided by the research question and theoretical frameworks the author looks for the acknowledgment of interconnections.

Themes, Terms, and Definitions

The chosen themes and terms reflect theoretical and practical aspects of topics associated with the subjects of labor-migration and environment in the meat industry. Themes and terms are applied consistently across the documents. The evidence and material presented in the literature review contextualize the analyses and provides the basis for the deductive selection of themes and terms. Themes refer to the broadest theoretical concepts derived from the research question, whereas terms are words, likewise deduced, which are directly relevant to and encompassed in the theme and its definition, the same terms are used across documents. The interpretation of term usages and description of their context within the analyzed content will be focused on the presence of interconnections and interlinkages. Notable findings are then presented and discussed. A complete list of documents and their results can be found in the Annex in the following format:

The 2030 Agenda for Sustainable Development (Declaration, Goals, and Targets)

Theme / frequency Terms */ frequency*	Meat / 0 *Livestock/1* *Food* /15 *Nutrition/6* *Animal* / 1 *Agriculture/11*	Labor (labour) / 10 *Workers* / 3 *Slavery* / 1 *Unions* / 3 *Wages* / 1	Migration / 6 *Citizenship* / 3 *Immigrant* / 0 *Migrant* / 8	Environment / 16 *Emissions* / 3 *Climate* / 26 *Deforestation* / 1 *Carbon Dioxide* / 0 *Fossil Fuels* / 2
Total Frequency	34	18	17	48

Validity and Reliability

The content analysis focuses on summative outcomes and offers contextual interpretation anchored in empirical data from beyond the sampled content itself. The categories (themes) and concepts (terms) used in this coding methodology have been deductively determined from information found in the theoretical framework and literature review. The process of deductive category application succumbs to the problem of reliability given the exploration is conducted by a single researcher. Themes and terms are limited, not exhaustive. Future projects expanding on this work can improve reliability by assessing the role of similar themes with different terms in the same samples or different communications.

Sample Selection

The project selects documents that communicate, implement, and report on the progress of the SDGs like the 2030 Agenda, which consists of the 17 goals and their related targets, indicators, Voluntary National Reviews (VNRs), and relevant Partnerships. VNRs are mechanisms used to follow up and review progress, as stipulated in paragraph 79 of the Agenda, which encourages states to "conduct regular and inclusive reviews of progress at the national and sub-national levels, which are country-led and country-driven."[81] Voluntary reviews allow countries to share implementation successes and challenges and can potentially mobilize support, partnerships, and policies. Brazil participated in the VNR in 2017, and the respective report is included.[82] The United States makes two National Reports available on the Sustainable Development Knowledge Platform, which serves a similar function of communicating progress

[81] UNGA. 2015. *Transforming our world: the 2030 Agenda for Sustainable Development.* :33.
[82] Brazil, Voluntary National Review on the Sustainable Development Goals. 2017. https://sustainabledevelopment.un.org/content/documents/15806Brazil_English.pdf [accessed 17 March 2018].

and national sustainable development priorities.[83] The date of these publications indicates the need for updates, yet their content presents valuable insights into the country's sustainable development points of interest. Country-specific samples portray progress and ambitions and speak to levels of awareness for the interlinkages whereas the 2030 Agenda itself can show the extent to which internationally agreed political goals and universal targets address interconnectivity and the livestock sector.

In addition to the goals, targets, indicators, and VNRs, the content analysis reviews the ability of the Partnership mechanism derived from goal 17, 'Strengthen the means of implementation and revitalize the global partnership for sustainable development" to address livestock and industrial meat related interlinkages. Partnerships are formed by a commitment to cross-sectoral collaboration and are a distinguishing feature of the SDG Framework and its potential for integrated implementation. The publicly available database of registered Partnerships is used to find initiatives featuring the involvement of Brazil and the United States' governments, and initiatives addressing or acknowledging interaction between labor, migration, the environment, and industrial livestock. Initiatives that deal specifically with meat and livestock are then included in the analysis. The capacity of the partnerships to connect the private sector with public and non-profit actors makes it possible to consider overlapping problems and address them holistically. Future studies can expand on this method and assess Partnership

[83] The United States of America National Reports:
2008. *Agriculture, Rural Development, Land, Drought, Desertification and Africa.* Submitted to the Department of Economic and Social Affairs Commission on Sustainable Development. http://www.un.org/esa/agenda21/natlinfo/countr/usa/2007_fullreport.pdf
2010. *Transport, Chemicals, Waste Management, Mining, and Sustainable Consumption and Production*. Submitted to the United Nations' Department of Economic and Social Affairs Commission on Sustainable Development. http://www.un.org/esa/dsd/dsd_aofw_ni/ni_pdfs/NationalReports/usa/Full_text.pdf

priorities in other sectors, collect data on partnership progress, draw comparisons, and identify patterns.

6.Content Analysis

The first group of documents analyzed represent the priorities of the SDG Framework and communicate its mission: The 2030 Agenda, Global Indicator Framework, SDG Progress Reports from 2016 and 2017, select reports of the Secretary-General concerning the progress of the Agenda. These flagship publications are central to the clarification of international sustainable development priorities. The second group is composed of country-specific communications concerning national progress on issues related to sustainable development, the VNR and country reports of the U.S and Brazil can show national prioritization through issue salience, in other words, the aspects governments choose to communicate and the breadth of information they decide to share. The following analysis traces the frequency of terms within the themes Meat, Labor, Migration, and Environment. Time limitations prevent an analysis or detailed account of every term and theme occurrence, so the instances selected for elaboration are based on their relevance to the research question.

6.a UN Documents

Meat is not mentioned in the language of the Agenda, but the terms *livestock* and *animal(s)* appear once respectively, under Goal 2: “End hunger, achieve food security and improved nutrition, and promote sustainable agriculture,” which recognizes a link between food production and the environment. The term *livestock* is found in target 2.a which calls for increased productivity, international cooperation, technological capacity, and plant and livestock gene banks in the least developed countries. The contextual language in the targets touches on some causes of food insecurity, including market distortions, export subsidies, and other

practices that make food overly abundant in some regions and insecure in others. There is an emphasis on intensifying small-scale production in the least developed countries, but no attention is placed on industrial agriculture in developed countries, an oversight that cripples an opportunity to express the centrality of livestock production and consumption patterns.

The 2030 Agenda for Sustainable Development (Declaration, Goals, and Targets)

Theme / frequency Terms / *frequency*	Meat / 0 *Livestock/1* *Food* /15 *Nutrition/6* *Animal* / 1 *Agriculture/11*	Labor (labour) / 10 *Workers* / 3 *Slavery* / 1 *Unions* / 3 *Wages* / 1	Migration / 6 *Citizenship* / 3 *Immigrant* / 0 *Migrant* / 8	Environnent / 16 *Emissions* / 3 *Climate* / 26 *Deforestation* / 1 *Carbon Dioxide* / 0 *Fossil Fuels* / 2
Total Frequency	34	18	17	48

Global Indicator Framework

Theme / frequency Terms / *frequency*	Meat / 0 *Livestock/1* *Food* /16 *Nutrition/2* *Animal* / 1 *Agriculture/ 17*	Labor (labour) / 11 *Workers* / 4 *Slavery* / 1 *Unions* / 1 *Wages* / 1	Migration / 3 *Citizenship* / 3 *Immigrant* / 0 *Migrant* / 5	Environnent / 4 *Emissions* /2 *Climate* / 26 *Deforestation* / 1 *Carbon Dioxide* / 0 *Fossil Fuels* /9
Total Frequency	37	18	11	42

The language used around the term *livestock* is related to sectoral growth, investment, and foreign intervention. It is surprising that the target concerned with sustainable agriculture and nutrition does not distinguish between plants and livestock, being that the consumption patterns of animal-based products develop along socio-economic lines, and animal proteins are a crucial element of improved nutrition.[84] The term livestock is found again only in connection to

[84] Walker, *et al.* 2005. "Public Health Implications of Meat Production and Consumption." *Public Health Nutrition* 8 (4): 348–56.

coastal eutrophication in 2017 SDG Progress Report[85]and in the 2016 Secretary-General report in connection to maintaining breed diversity.[86] The relationship between livestock and the environment is therefore recognized as detrimental to the ocean and marine ecosystems in those communications. The term *animal* is also used only once, in the similar context of maintaining seed, plant, and animal diversity as well as genetic data sharing as a function of increasing production.[87] The ecological footprint of livestock and forced animal reproduction accounts for 18% of global greenhouse gases emissions and directly threatens genetic diversity.[88] The language of the Agenda addresses livestock and animals primarily through the frame of economic growth and fails to identify the catastrophic global consequences of increasing production through unsustainable means.

The term *food* is used to address the interconnection between food and greenhouse gas emissions; indicator 13.2.1 calls for countries to "foster climate resilience and low greenhouse gas emissions development in a manner that does not threaten food production."[89] The indicator refers to food as a source of greenhouse gas emissions, when in reality, animal products are responsible for a considerably larger share of emissions.[90] Roughly 1/3 of arable land on earth is used for animal pasture, and a little over 1/3 is used for growing livestock feed. [91] It may not be helpful to conflate all types of food and agriculture when some are much less sustainable than

[85] United Nations.. Sustainable Development Goals Report.2017:46.
[86] Progress towards the Sustainable Development Goals Report of the Secretary-General. 2016:4
[87] UN General Assembly, *Transforming our world.* 2015.
[88] Matthews, Christopher. "Livestock a major threat to environment." November 6, 2006. Accessed March 12, 2018. http://www.fao.org/newsroom/en/news/2006/1000448/index.html.
[89] United Nations. 2017. "Annex: Global Indicator Framework for the Sustainable Development Goals and Targets of the 2030 Agenda for Sustainable Development." *Work of the Statistical Commission Pertaining to the 2030 Agenda for Sustainable Development*, 1–21:14.
[90] Reisch *et al.* 2013. "Sustainable Food Consumption: An Overview of Contemporary Issues and Policies." *Sustainability: Science, Practice, & Policy* 9 (2): 7–25.
[91] FAO. LIVESTOCK AND LANDSCAPES. 2012. Accessed March 12, 2018. http://www.fao.org/docrep/018/ar591e/ar591e.pdf.

others. The language specifies that climate policies should not "threaten" production of food, suggesting a tradeoff exists between food productivity and climate change mitigation, which in the case of mass-produced animal products and monoculture crops, may be accurate. Without a nuanced distinction between small-scale and industry and the generalized use of the term "food", it is possible to justify the continued use of industrial livestock practices. As such, the vagueness of the communication can function as a loophole for unsound practices. The 2016 SG report echoes the call for technology and investments that increase production to address malnutrition, though recognizing that hunger is not a simple problem of "food availability."[92] The report does not elaborate on whether it means that the global yield of food production is unequally distributed rather than insufficient, but it does corroborate the Agenda's call for more sustainable agricultural production while refraining from encouraging a reduction in current methods.

The term *labor* (labour) appears 11 times in the Agenda: child labor (Goal 8.7), forced labor and slavery (Goal 8.7), and productivity in labor-intensive sectors (Goal 8.2). The protection of labor rights is mentioned (Goal 8.8) along with the call for secure working environments, including for migrant workers and those who are precariously employed. This occurrence touches on the connection between decent work and migration examined in this research. A link between labor practices, migrants, and industries degrading the environment is not made. Instead, security in the working environment is framed as localized and immediate rather than interconnected. An opportunity is missed to call for more data about the clear relationship between worker exploitation and natural resource exploitation, as recognized in labor environmentalism. The 2016 SG progress report does refer to the fact that 59% of the

[92] UN. Progress towards the Sustainable Development Goals. 2016:4.

world's child laborers work in agriculture, a figure echoed by the 2017 SDG progress report.[93] Overall, the term labor is mostly used in the context of child labor, and labor productivity. One finding under the Meat theme concerns the link between labor and agriculture: SDG 8.3 mentions decent job creation and its sole indicator, 8.3.1, is the "proportion of informal employment in non-agriculture employment, by sex."[94] While the agenda calls for increased food production, decent work, and full employment, it does not request disaggregated data about agricultural labor, or informal labor, which is how many migrants in industrial farming operations would be characterized.

When it discusses workers and the extraction of human labor for production, the Agenda uses the term productivity. In paragraph 27 of the declaration, signatories pledge to "adopt policies which increase productive capacities, productivity, and productive employment; financial inclusion; sustainable agriculture, pastoralist, and fisheries development; sustainable industrial development…" In this paragraph, describing how to build strong economic foundations, the Agenda broadly connects decent work to income inequality and wealth disparity, gender-based empowerment, and the eradication of slavery, health, and education. It also discusses two forms of livestock production distinctly: pastoralism and fishing. There is no acknowledgment of industrial livestock and mass production. The focus on small-scale production reinforces the language of target 2.3, which aims to double agricultural productivity and income for small-scale production, to pastoralists and fishers, and other groups by increasing access to resources. This target recognizes food production as a key vehicle for socio-economic engagement and empowerment. It also establishes that obstacles to market entry are secure and

[93] UN. Progress towards the Sustainable Development. 2016:12.
[94] UN. SDG Global Indicator Framework:21.

equal access to knowledge, financial and natural resources. This perspective, while legitimate and critical, is one facet of the global livestock-animal resource sustainability solution, but it does not reflect on the source of obstacles. A distortion of equal access to agricultural markets and resources are, in part, linked to the vast domain and invasive practices of multinational industrial agribusinesses. Delivering on target 2.3 requires resistance to existing multi-national mass production and its top-down, command-and-control methods of managing agricultural resources and knowledge.[95]

Another crucial omission that challenges the Agenda's human rights orientation is that of organized labor. Collective bargaining can empower vulnerable workers and help them achieve higher wages, workplace protections, and counter exploitation.[96] Labor organizing can be a powerful tool for the generation and implementation of sustainable development policies. There is one mention of the term "trade unionist," under indicator 16.10.1, which calls annual records of arrests involving trade unionists, human rights activists, journalists. The indicator and corresponding target, therefore, acknowledge trade unionism is a threatened political freedom, but it does not take additional opportunity bridge labor activism and environmentalism, or to link collective bargaining with improved employment and environmental standards. The last term coded under the labor theme is *slavery/slave*, mentioned a single time in SDG 8.7, "take immediate and effective measures to eradicate forced labour, end modern slavery, and human trafficking…" There is no connection made between the institutional use of forced labor by

[95] Holling, C S, and Gary K Meffe. 1996. "Society for Conservation Biology Command and Control and the Pathology of Natural Resource Management." *Source: Conservation Biology* 10 (2): 328–37. [accessed8 March 2018] at: http://www.jstor.org/stable/2386849%5Cnhttp://www.jstor.org/page/.

[96] Crépeau, François. "Report of the Special Rapporteur on the Human Rights of Migrants." 2014.:5. [accessed 8 March 2018] at: http://www.ohchr.org/Documents/Issues/SRMigrants/A-HRC-26-35-Add1_en.pdf

industries responsible for environmental degradation. The indicator framework does not call for data collection on forced labor in extractive industries or any industry.

Under the theme of Migration, the term *migration* itself occurs six times, recognizing its multidimensional importance to human development and calling for orderly and "regular" migration through planned and well-managed migration policies under Goal 10: "Reduce inequality within and among countries." The rights of migrants and the vulnerability of refugees and internally displaced persons are also given attention in paragraphs 23 of the Declaration (empowering the vulnerable), 25 (equitable education), and 29 (inclusive growth and sustainable development and right of return). The content of paragraph 29 is most closely associated with the issues targeted in this project:

> *"29. We recognize the positive contribution of migrants for inclusive growth and sustainable development…We will cooperate internationally to ensure safe, orderly and regular migration involving full respect for human rights and the humane treatment of migrants regardless of migration status, of refugees and of displaced persons..."*

It appears that, in this section, the labor-migration-environment nexus is briefly acknowledged in the opening sentence. The interdependent relationship between the exploitation of migrant labor for the function of natural resource extraction seems to be not only missing but inaccurately deflected by the statement of a positive relationship. That is not to say that migrants do not positively contribute to sustainable growth, just that the instrumentalization of migration as public policy cannot be reasonably characterized as inclusive or sustainable. Ensuring orderly and safe migration policies and the humane treatment of migrants, as stated at the end of the paragraph, strikes a more realistic tone regarding the relationship between development and migration, in that it alludes to, however indirectly, ruling migration regimes designed to enhance exploitation and social exclusion for workers. The fragmentation between the first sentence of

the paragraph and its conclusion either euphemizes labor migrations' relationship to the environment or, overlooks it.

The relationship between migration and precarious labor is addressed directly in target 8.8, which articulates the need for the protection of labor rights and includes an indicator concerned with collecting national information on compliance with labor laws, including the right to collective bargaining, and information about workplace injury rates by migration status. Increased knowledge about migrant workers' conditions is directly relevant for those in the industrial meat sector, particularly in the United States. Whether this data collection can be applied to domestic migrants, like those facing exploitation in the Brazilian meat sector, is unclear, but the recognition of that migrant labor exploitation alone makes it possible for partnerships and VNRs to carry our more nuanced analysis of the problem and adjust approaches to national realities.

SDG 13.1 states the need to strengthen adaptation to climate change, guided by international climate frameworks. We can consider this a brief, broad allusion to the migration-environment relationship, though the target makes no further effort to clarify links between climate change, and the migration that inevitably accompanies it. In fact, migration widely considered as the primary method of climate change adaptation.[97] 13.3 reiterates the need for adaptation strategies but is not supported by indicators dealing with migration policies. 13.3.2 speaks to institutional and individual adaptation capacity building, however, which is a broad enough to encompass migration systems, and thus provides an opportunity for partnerships to link this target with the "well-planned migration policies" ambitions of SDG 10, accounting for labor dimensions.

[97] Black, Richard, Stephen R G Bennett, Sandy M Thomas, and John R Beddington,. "Climate Change: Migration as Adaptation," *Nature* 478 (7370) 2011: 447–49.

Overall, an opportunity is missed in the language of Goal 2 to link livestock and natural resource abuse adequately, and to link meat with socio-economic inequality and imbalanced nutrition.[98] Language contextualizing the use of terms in the Labor theme was growth-oriented, and when human rights are associated with labor, it is often about child labor, which, while crucial, cannot obscure the range of exploitative working contracts contributing to poverty among adults or replace it in discourse. Goal 13 similarly elects not to discuss top adaptation strategy and the human challenge posed by climate change migration. From exclusively engaging with the UN Documents analyzed here, someone learning about sustainable development would not receive sufficient information about the central, multidimensional impact of meat on individuals, communities, and the planet.

6.b U.S. National Reports

The National Reports provided by the United States during President Barack Obama's administration to the UN Commission on Sustainable Development address the country's progress and actions in the field. Despite not being more up to date and preceding the SDG era, the reports can offer insight on national priorities. The reports are substantial in their concern for themes which have thus far been largely neglected by the 2030 Agenda, SG reports, and Brazil's VNR. On the other hand, considerable gaps remain when it comes to the Migration theme. Findings in the two reports will be addressed here together.

[98] Sans and Combris. 2015. "World Meat Consumption Patterns: An Overview of the Last Fifty Years (1961–2011)" 109: 106–11.

The United States National Report 2010

Theme / *frequency* *Terms* / *frequency* *[Extended terms]* / *frequency*	Meat / 0 *Livestock*/1 *Food* / 62 *Soybeans* / 0 *Animal / 11*	Labor (labour) / 4 *Workers* / 5 *Slavery* / 0 *Unions* / 1 *Wages* / 0	Migration / 0 *Citizenship* / 0 *Immigrant* / 0 *Migrant* / 0	Environnent / 113 *Emissions* / 95 *Climate* /35 *Deforestation* / 1 *Carbon Dioxide* / 4 *Fossil Fuels* / 1
Total Frequency	74	10	0	249

United States National Report 2008

Theme / *frequency* *Terms* / *frequency* *[Extended terms]* / *frequency*	Meat / 4 *Livestock/* 31 *Food* /100 *Soybeans* / 0 *Animal / 16*	Labor (labour) / 0 *Workers* / 4 *Slavery* / 0 *Unions* / 1 *Wages* / 0	Migration / 0 *Citizenship* / 0 *Immigrant* / 1 *Migrant* / 0	Environnent / 49 *Emissions* / 11 *Climate* / 30 *Deforestation* / 3 *Carbon Dioxide* / 1 *Fossil Fuels* / 1
Total Frequency	151	5	1	95

The 2010 National report is concerned with the efficient use of animal testing, pesticide concentrations and other chemical pollutants found in animals, animal health, and most notably, addresses the effect of animal production on "water and air quality, water flows, and wildlife habitat," further adding that "fertilizers, insecticides, pesticides and livestock waste can enter ground and surface water, adversely affecting water quality." [99] The occurrence directly acknowledges the livestock-environment link in a way the other documents do not. In the 2008 report, *meat* appears a total of 31 times in a range of nuanced contexts with particular emphasis on food safety monitoring and inspection. *Livestock* is also featured with 26 recorded uses,

[99] United States, *Transport, Chemicals, Waste Management, Mining, and Sustainable Consumption and Production*, Report. 2010:73.

equally spread across concerns for industry productivity, marketing, development, and natural resource management. *Animal* appears 15 times in similar contexts.

The 2010 report mentions *work/workers* eight times, referring workplace protection standards, exposure to pesticides and chemicals, and access to transportation. Emphasis exists on locally sourced foods, information sharing, and pesticide awareness. There are only three mentions of *work/worker* and one mention of *labor* in the 2008 document; all the occurrences refer to safety standards and practices in other countries.

For all its acknowledgment of meat, livestock, nutrition, and agriculture, the U.S. national reports do not mention migration, immigrants, or migrants at all, save for one occurrence in the 2008 report, which notes that international immigrants account for one-third of the increase of populations living in a non-metro area. Perhaps the most notable characteristic of these reports is the near-complete omission of the theme of migration, even when the acknowledgment of industries dominated by migrant labor is abundantly represented. One explanation for overlooking the connection between migrant workers and environmentally hazardous sectors is an emphasis on the environmental aspects of sustainability, focused only on technologies and infrastructure, and insufficiently on patterns of behavior and unsustainable social institutions.

In conclusion, the US reports reveal some fundamental inconsistencies: 'meat' does not appear at all despite 62 counts of the term 'food' and the fact that Americans are among the top consumers of meat per capita in the world.[100] Another ratio is striking; though 'emissions' are mentioned 95 times, fossil fuels come up only once despite being the leading cause of greenhouse gas emissions.[101] Another contrast is that despite the defining presence of foreign-

[100] OECD/FAO. 2017, OECD-FAO Agricultural Outlook 2017-2026, OECD Publishing, Paris. http://dx.doi.org/10.1787/agr_outlook-2017-en [accessed 17 March 2018].
[101] Environmental Protection Agency, 2014. Global Emissions by Gas.

born workers in the agricultural system and food supply chains, and the frequent reference to 'food,' the terms 'immigrants' and 'migrants' do not emerge at all.[102] The emphasis on the environment overwhelms language concerned with social and economic paradigms.

6.c Brazil Voluntary National Review

Brazil has submitted a VNR for 2017, which is subjected to the same analysis criteria as the Agenda. *Meat* is mentioned once, as part of an infographic breakdown of Brazilian exports which reads: "Chicken meat and beef - 5.6%," making it the country's third-largest export after soybeans and iron ore.[103] *Livestock* is mentioned twice, first regarding the need for improved data gathering under the National System of Official Information, and again concerning the 2016-2019 Multi-Year Plan of the Federal Government, which lists livestock-raising as a central area of international technical cooperation. Despite its stated focus on SDG 2, and Brazil's standing as one of the two fastest-growing consumers of animal products, the review does not discuss meat or animals.[104]

Brazil's 2017 Voluntary National Review on the SDGs

Theme / frequency *Terms / frequency*	Meat / 1 *Livestock/* 2 *Food* / 17 *Nutrition/* *Animal / 0*	Labor (labour) /8 *Workers* / 2 *Slavery* / 0 *Unions* / 1 *Wages* / 3	Migration / 0 *Citizenship* / 2 *Immigrant* / 0 *Migrant* / 3	Environnent / 10 *Emissions* / 1 *Climate* / 7 *Deforestation* / 1 *Carbon Dioxide* / 0 *Fossil Fuels* / 0
Total Frequency	21	14	5	19

https://www.epa.gov/ghgemissions/global-greenhouse-gas-emissions-data#Gas [accessed 18 March 2018].

[102] Alves Pena, Anita, "Legalization and Immigrants in US. Agriculture," 2007:7.

[103] Government of Brazil, "Voluntary National Review on the Sustainable Development Goals," 2017 :17.

[104] Sans and Combris,"World Meat Consumption Patterns," 2015. 109: 106–11.

The term *workers* yields two results, first in the description of a National Rural Housing Program, targeted at family farmers and rural workers, and the second is found in the name "General Workers Union (UGT)," listed as a Third Sector entity with representative capacity. *Labor* appears slightly more frequently, first in the Municipal Vulnerability Atlas, as part of its three-dimensional platform based on urban infrastructure, human capital, and income and labor indicators. It appears twice in reference to child labor: once while describing the role of civil society in eradicating child labor, and again while articulating the role of the National Policy for Social Assistance (PNAS), which provides either Basic Social Protection and Special Social Protection to at-risk populations (including those whose rights are violated by "child labor.)[105] Brazil's VNR also lists the "insertion of people in vulnerable situations into the formal labor market" as a goal of participatory planning at the community level, and acknowledges gender imbalances when it comes to women "entering and remaining in the labor market."[106] The last and most substantive mention of *labor* regards extreme poverty, which the VNR recognizes poverty as having "markedly rural traits," noting how reduced access to land and income by small farmers is the result of land concentration across the country. It also mentioned meager rates of labor formalization in the field and the scarcity of public services in rural areas."[107]

The VNR does not address livestock, a significant component of Brazil's economy, diet, and the single most significant threat posed to biodiversity and forests in the Amazon basin.[108] There is no mention of cattle-ranching, and only a single mention of soybeans, Brazil's top export. Though the document specifies concern for Goals 1 (no poverty) and 2 (hunger and

[105] Government of Brazil,"Voluntary National Review on the Sustainable Development Goals," 2017:52.
[106] Government of Brazil, "Voluntary National Review" 2017:35.
[107] Ibid., 55.
[108] Volpi. Climate mitigation, deforestation and human development in Brazil. 2008:2.

sustainable agriculture), there are no mentions of slavery, forced labor, domestic labor migration, or exploitation in industrial agribusiness and associated industries, which reflects an absence of interconnective vision. There is no acknowledgment of the massive carbon footprint of meat, a Brazilian staple. The VNR mostly focuses on socio-economic goals, to the detriment of powerful interlinkages with environmental aspects.

Brazil's national review does mention efforts to combat human trafficking, support migrant women in violent situations, and to offer guidance about regularization of documents, providing psychosocial care and legal assistance to female migrants, a useful intersectional effort. Services provided by the Women's Assistance Centers in border regions are directed at international migration and demonstrate awareness of the specific needs of migrants in precarious situations. [109] The VNR recognizes the importance of regularizing migrants' documentation and the role of psychological and legal services. The language falls short of sharing a broad vision of migration encompassing domestic migrants, who in many cases also suffer from lack of proper documentation, psychological trauma, illiteracy, and severe labor violations, but may not necessarily cross international borders to enter into unsustainable work contracts with agribusiness and the livestock industry.

The VNR makes little attempt to discuss climate change and the country's contribution to it. The word emission appears once, in reference to civil society projects that estimate GHG emissions.[110] What makes Brazil the world's 4th largest GHG emitter -- deforestation, pasture clearing, and cattle – is not addressed at all. Deforestation is mentioned once, as an aggravator of poverty. The communication makes the thought-provoking acknowledgment that poverty is

[109] Government of Brazil,. "Voluntary National Review" 2017:67.
[110] Government of Brazil,. "Voluntary National Review" 2017:35.

linked with environmental problems in that they exacerbate each other.[111] While this is true and requires full attention, the bidirectional interlinkage is not captured responsibly. One of the central ways poverty drives environmental degradation is in the form of cheap labor; practices like debt-peonage cause direct upward pressure on rates of Amazonian deforestation.[112] Not explaining the interconnection, the document leaves room for holding people living in poverty and under conditions of exploitation responsible instead of addressing structural causes of poverty and exploitation both of workers and natural resources. The communication does not acknowledge that people trapped in cycles of exploitation cannot break from adverse bidirectional relations by themselves. Somewhat broadening the spectrum of responsibility, is the brief acknowledgment of the relationship between high incomes and natural resource over-consumption. The language remains problematic, however, emphasizing the role of poverty in environmental devastation and understating the role of abusive consumption and management of natural resources.[113]

That the critical junction between livestock and environmental degradation is not addressed in Brazil's VNR, points to a lapse in prioritization or a politically motivated omission, not an absence of data. A recognition of rural poverty and its relationship to deforestation exists but is communicated without elaboration on the exploitative labor dynamics defining it, leaving room for blaming victims instead of addressing causes. Above all it is clear from the structure of the document that its stated emphasis on SGDs 1 (poverty), 2 (hunger and agriculture), 3 (health), 5 (gender equality), 9 (industry), and 17 (partnerships) is imbalanced in the absence of links to the environmental and economic pillars of development, embodied in goals 8 (decent

[111] Ibid., 51.
[112] Luiza, Anna, and Ozorio De Almeida, "Debt Peonage and Over-Deforestation in the Amazon Frontier of Brazil," 1992. no. 1: 307–12.
[113] Government of Brazil, "Voluntary National Review" 2017:51.

work), 12 (production and consumption) and 13 (climate action). Poverty and decent work are interdependent, as are hunger, agriculture, production, and consumption. A progress report on the SDGs that is not entirely integrated misses out on the core function and strength of the sustainable development framework.

The repeated emphasis on labor productivity and child labor across the UN documents eclipses positive and empowered roles for labor in sustainable development, like collective bargaining for environmental reforms targeting exploitative production methods. Similarly, country-specific documents shy from recognizing the most vulnerable labor forces underpinning and driving economic growth and food production. The SDG Partnerships and their cross-sector reach may be a better instrument for focusing on the interlinkages between migration, labor, livestock, and the environment than government-curated communications.

6.d Partnerships

On the SDG Partnerships online platform, visitors can browse through the 3,784 registered multi-stakeholder partnerships and voluntary commitments undertaken by governments, civil society groups, and other stakeholders to support the implementation of the Sustainable Development Goals.[114] A built-in search function is available on the platform, allowing users to find specific partnerships. The first method used for narrowing down on partnerships and initiatives is filtering searches by country partners to view initiatives that list Brazil or the United States government as partners and to then identify those related to livestock. The second selection method searches the partnership database by keyword. The results for "Livestock" and "meat" searches are reviewed based on their relevance to the research question,

[114] "United Nations Partnerships for SDGs Platform." United Nations. [accessed April 16, 2018]. https://sustainabledevelopment.un.org/partnerships/.

the degree of interconnectivity expressed, and other notable features. Partnerships differ from the previous documents in that they are not standalone public communications that declare priorities, they imply actionable strategies and can reflect the how the Agenda is understood and implemented. The accuracy of search results on the online platform cannot be fully guaranteed, so it is possible that initiatives concerned with the many interlinkages exist but are not captured by the keyword.

Country Partners

22 partnerships list the United States government as a partner; five were selected because they include co-partners like Departments and Ministries of Agriculture, the UN Food and Agriculture Organization (FAO), or because livestock and meat are mentioned in the description. Where progress reports and program documents describing the goals, policies, and aims of the partnership could be accessed, they were submitted to the content analysis. Of the five partnerships that list the government of Brazil as a partner, one has been selected for content analysis, the UN Environment Program's 10YFP Sustainable Food Systems Program (SFS), to which the United States also belongs. The 10YFP's main website lists the SFS Program Document as central, which is the content analyzed here.[115] The following discussion concerns how the various partnerships address interconnectivity of issues posed by industrial livestock and meat production.

The stated goal of the SFS program is to "promote sustainability all along the food value chain from farm to fork." With the U.S. and Brazilian governments as partners, and with an emphasis on good practices, the initiative has the potential to address the interconnections

[115] 10YFP Sustainable Food Systems (SFS) Program Document. 2016. http://www.scpclearinghouse.org/sites/default/files/10yfp-sfs-programmedoc.pdf [accessed 12 March 2018].

discussed in this paper. The term *meat* makes an appearance on three occasions, *livestock* is mentioned once, and the term *animal* comes up three times. In those instances, some degree of interconnectivity is acknowledged, like, promoting reduced meat consumption through school programs, which proactively connects consumption patterns with education.[116] The document also refers to meat as a socially costly food, though what is meant by costliness is not clarified.[117] The social costs likely implied in this phrase include public health hazards posed by meat in developed regions, a connection the document makes repeatedly and reinforces with its recognition of the positive relationship between rising incomes and demand for meat.[118] Interestingly, the document defines food systems as "a food system that gathers all the elements (environment, people, inputs, processes, infrastructures, institutions, etc.) and activities that relate to the production, processing, distribution, preparation and consumption of food and the outputs of these activities, including socio-economic and environmental outcomes." [119] If the food systems encompass the people at the forefront of production and processing and socio-economic outcomes, it can work with meat producers and workers on the problem of exploitation and natural resource abuse. The SFS Program Document, mentions labor only once, however, when referring to the role of women, who comprise 43% of the agricultural labor force.[120] There are no other instances of the terms *worker*, *slavery*, *unions*, or *wages*. The migration theme and its terms are also not represented, which means none of the interconnections between meat, decent work, migrant labor and the environment, are not expressed, and environmental concerns outweigh socio-economic aspects.

[116] SFS Program Document. 2016:21.
[117] Ibid,. 22.
[118] Ibid,. 3.
[119] Ibid,. 4.
[120] Ibid,. 8.

Of the four remaining partnerships selected for content analysis that includes the U.S Government as a partner (SEED 10Y[121] Aloha Challenge[122], Urban LEDS, and CCAC[123]), none are dedicated to or demonstrate acknowledgement of the migrant worker component, as demonstrated by the quantitative results of the analysis, and thus do not establish a critical social-environmental interconnection that makes meat a point of interest for the achievement of the SDGs. A full list of results and documents associated with the analysis of these partnerships is reflected in the Annex. The diversity of partnership platform is such, in the end, that new partnerships can continuously fill existing gaps and build cross-sector relationships that champion increasingly nuanced and integrated interpretations of the Agenda.

Partnerships by Keyword

Filtering the partnerships registry (beyond results involving Brazil and the US) by keyword, search results yield 23 partnerships associated with the term "livestock," and 12 with the term "meat," some of which overlap. The terms were chosen for their specificity to the research question, which is concerned with the representation of livestock, meat production, and its connection to migrant labor exploitation and environmental degradation. To narrow down the results further and distill the most relevant partnerships, initiatives concerned with fishing, dairy, oceans, and other animal food sectors, are excluded, and the programs with a direct interest in meat or livestock were retained. Though it exceeds the scope of the project to elaborate, it must

[121] Ehrensperger, Carolin, Jona Liebl, Jana Rudnik, and Mirko Zürker, *Turning Ideas into Impact Setting the Stage for the next 10 Years of Green and Inclusive Growth through Entrepreneurship*. Report. Berlin: Adelphi Research. https://www.seed.uno/images/reports/SEED_10Y_Flagship_Report.pdf [accessed 12 March 2018].

[122] State of Hawaii. 2014. *Aloha+ Challenge: Recommendations for Taking Action Tracking Progress*. Report to the 28th Legislature.

[123] Climate and Clean Air Coalition. "Agriculture Initiative Progress Report 2016-2017". Report. http://www.ccacoalition.org/en/resources/agriculture-initiative-progress-report-2016-2017 [accessed 12 March 2018].

be stated that the problems of migrant labor exploitation and environmental degradation extend into the fishing supply chain and communities dependent on them, where sometimes 1 in 5 migrant workers report being forced to work.[124]

Of the 23 partnerships yielded from a "livestock" filtered search, two stand out as having an apparent interest in livestock production practices. The first and most directly associated initiative is the FAO's Livestock Environmental Assessment and Performance (LEAP) Partnership, which seeks to understand the environmental performance of livestock supply chains and offer guidance and methodologies that support evidence-based policy-making about livestock enterprises. LEAP's principal activities are comprised of nutrient impact assessments, water management, and footprinting, accounting for soil carbon stock changes, biodiversity, eco-toxicity, sustainability assessments, and change-oriented a business strategy and policy guidance. The publications offered on LEAP's website provide evidence of addressing environmental issues mentioned in this study, like the massive emission of greenhouse gases and fossil fuel usage in livestock operations.[125] Despite its apparent awareness of the environmental impact of livestock, LEAP's mission and initiatives do not cross into the social and economic effects of industrial production, which is one of the connections examined here. In addition to being solely concerned with the science of livestock impact, only six FAO member states have joined the initiative: France, Ireland, Netherlands, Switzerland, New Zealand, and Italy. Perhaps more encouraging is the list of private sector partners, which includes, among others, the International Meat Secretariat (IMS). The IMS claims to represent over 75% of the global production of cattle, pig and sheep meat; its membership includes significant meat associations from Brazil and the

[124] Ratner, Blake D., Björn Åsgård, and Edward H. Allison, "Fishing for Justice: Human Rights, Development, and Fisheries Sector Reform." *Global Environmental Change.* 27 (1): 120–30. 2014:24.

[125] LEAP publications. http://www.fao.org/partnerships/leap/publications/en/ [accessed 12 March 2018].

United States.[126] Partnerships like LEAP provide a source of empirical evidence about the profound environmental impact of livestock to the world's largest producers, who, by their membership, cannot claim ignorance of actionable scientific knowledge. The vision expressed by this document does not include the social integration of livestock sustainability.

The second partnership, called Flexitarianism: flexible or part-time vegetarianism, does not indicate centralized organization, as there is no associated website or publications available on the platform, and no partners are listed. [127] Instead, the initiative is communicated through a one-page description of its concerns and aims where connections between meat, industrial production, and public health are acknowledged. The global inequality of animal product consumption is also referenced, along with the water and energy demands of livestock, and its environmental impacts. This partnership advocates for a 25% reduction in global consumption of meat products, which it claims would yield 12.5% less greenhouse gas emissions. Livestock production practices and consumption rates, the communication state, require social "indifference, desensitization, denial and disassociation with food production and humane and ethical consumption. This requires lack of compassion that inevitably results in deterioration of social and moral fabric." Solutions offered include dietary changes, increased corporate social responsibility, and making the price of meat reflect its real production costs, which includes reducing subsidies and considering a meat tax. The initiative's core solution to the multi-dimensional meat problem is a transition to plant-based foods. The range of interconnections described by Flexitarianism comes closer to the reality of livestock's effect on the total human

[126] International Meat Secretariat. 2016. *IMS Factsheet*. http://www.meat-ims.org/wp-content/uploads/2016/12/IMS_Factsheet.pdf [accessed 12 March 2018].

[127] Partnerships for the SDGs. 'Flexitarianism: flexible or part-time vegetarianism'. https://sustainabledevelopment.un.org/partnership/?p=2252 [accessed 12 March, 2018].

environment, but the initiative, like LEAP, does not directly connect the reader with the labor dimension, though it is the first document to link animal abuse to the deterioration of social systems. The relationship between the systemic abuse of billions of animals, vulnerable humans and the total environment, is poignant, powerful, and deserves joint attention from scholars, scientists, and policy-makers.

The language used to communicate the goals of Flexitarianism is the first to suggest meat consumption should be lowered, which marks an important recognition. The distribution of meat consumption is spread unevenly, at the international and domestic levels, according to income and wealth.[128] The relationships between over and under consuming areas suggest historical patterns of imperialism, resulting in tradeoffs where material abundance is made possible for some at a direct cost to others. History shows that the standards of wealthy countries and individuals are "maintained by a massive but unaccounted ecological deficit with the rest of the world," a deficit rooted in colonialism and the extraction of "cheap food, energy, raw materials, food and labor" from commodity frontiers like South America and Africa.[129] Cheap meat is a critical feature of the modern world, both as a cultural symbol of development and as a measurement against which the price of labor is determined and contained, also known as a wage good. [130]

Overall, individual meat consumption worldwide has increased exponentially in the last 50 years, from around 23kg annually in 1961 to 42kg in 2011, with total plant-based protein consumption dropping from 66% to 58% in the same period.[131] Per capita consumption of

[128] Sans and Combris, "World Meat Consumption Patterns," 2015:109.
[129] Weis, *The Ecological Hoofprint*, 2014:40.
[130] Williamson, Jeffrey G., *"Strategic" Wage Goods, Prices, and Inequality*. *American Economic Review*. 1977.Vol. 67.
[131] Sans and Combris,. "World Meat Consumption Patterns" 2015:107.

animal-based proteins (ABPs) including dairy and eggs have also multiplied excessively in more developed countries, growing according to purchasing power and rising incomes. A so-called "livestock revolution" has swept emerging market economies since the 1980's, defined by sharp increases in the consumption of pork and poultry.[132] The "revolution" is not an egalitarian one, however, as the amounts consumed correlate to income levels and overall consumption grows at rates comparable to those of urbanization, meaning that wealth is increasingly concentrated in urban cores, as is the demand for ABPs.[133] Rising rates of urbanization and the increasing potential of climate-induced rural-urban migrations are an important consideration for the 2030 Agenda and cannot be separated from the steeper demands for ABPs that accompany them.[134]

Not one of the partnerships associated with livestock articulates an apparent interest in migrant and forced labor, and none set out to bridge human rights violations with environmental degradation, a finding that reinforces the perception of labor as the weakest link in the supply chain. The most interconnected vision, the researcher finds, is put forth by Flexitarianism, which claims that "social and moral fabric" is deteriorated by ruthless practices, alluding to the multifaceted violence inflicted along the meat supply chain. Building on the work of the FAO, which effectively synthesizes the ways livestock affects each of the SDGs[135], it is possible for the Partnership platform to expand into in the area of meat production and consumption guided by the interconnectivity of labor environmentalism. If the online platform can provide increasingly methodical search filtering options, more in-depth analysis can be conducted, and the dynamics of partnership platform more closely understood.

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[132] Sans and Combris,."World Meat Consumption Patterns" 2015:106.
[133] Sans and Combris, "World Meat Consumption Patterns" 2015:109.
[134] Hardoy, J., and G. Pandiella.. "Urban Poverty and Vulnerability to Climate Change in Latin America." *Environment and Urbanization* 21 (1). 2009: 203–24. doi:10.1177/0956247809103019.
[135] FAO. 2016. S*ynthesis – Livestock and the Sustainable Development Goals.*

7.Conclusion

Through the mutually reinforcing exploitation of labor and resources, industrialized livestock operations have become highly profitable for the few corporations who dominate the global market.[136] The results of industrial growth strategies have been catastrophic: livestock production is the leading driver of natural habitat loss in the world, accounting for the loss of more than one-half of all grasslands and one-third of natural forests.[137] Production practices in the sector are unsustainable, proven to degrade the environment and exacerbate global inequalities.

Labor experiences along the industrial meat supply chain range from hazardous and poorly remunerated factory jobs to intergenerational slavery.[138] In order to meet labor shortages in remote places and dangerous industries, a dependence on migrant workers has developed. The systematic exploitation of labor through capital-oriented global migration regimes and restrictive national policies represents a cyclical problem: under command-and-control resource management strategies used to extract surplus value from nature and labor, vulnerable people are made to engage in work that degrades the environment and themselves mutually, destabilizing social, economic, and ecological systems in myriad ways.[139] Symptoms of environmental degradation manifest socio-economically through inequality, poverty, instability, and violence.[140] Turbulence in the human environment can then spur migration and displacement, generating new

[136] Pan Kwan Yuk, "Tyson profits beefed up by strong global meat demand," Financial Times. 2018. [accessed March 13, 2018]. https://www.ft.com/content/6a501700-0cce-11e8-8eb7-42f857ea9f09.
[137] Machovina, Brian, Kenneth J. Feeley, and William J. Ripple,. "Biodiversity Conservation: The Key Is Reducing Meat Consumption," *Science of the Total Environment* 536. Elsevier B.V. 2015: 419–31.
[138] Le Breton, Binka. *Trapped: Modern-day slavery in the Brazilian Amazon*. 2003.
[139] Holling, C S, and Gary K Meffe, "Society for Conservation Biology Command and Control and the Pathology of Natural Resource Management," *Conservation Biology* 10 (2). 1996: 328–37.
[140] Le Billon, Philippe, "The political ecology of war: natural resources and armed conflicts." *Political geography* 20, no. 5 (2001): 561-584.

labor forces vulnerable to exploitation. This is the labor-migration-environment nexus, observable in unsustainable sectors across the globe.

The 2030 Agenda, endorsed by heads of state and international global governance structures, represents an unprecedented opportunity to address intersectional challenges with integrated solutions. Only in recognizing the interconnections between the social, economic, and environmental aspects of development and adequately communicating their relevance to large audiences can the SDGs be fully achieved. The material footprint and socio-economic inequality associated with livestock production and consumption are deep and intersectional, but the language of the Agenda tiptoes around the subject and fails to communicate a need to reconsider our methods of production. The Agenda, in completely overlooking the role of animals in human development and climate change, other than as genetic data to be preserved as biodiversity is increasingly threatened, demonstrates a critical political failing. The consumption of animal products is not discussed or alluded to though global patterns point to critical financial interlinkages: meat consumption is rising worldwide, positively associated with income levels, wealthy populations over-consume animal products to the detriment of health, and the least wealthy under-consume it and suffer malnutrition.[141] The primary issue in the global food system, as it pertains to hunger, is not a simple need to increase production or productivity, but to ensure that sustainable means of agricultural production are equitably available and that people have financial access to what is produced.[142]

In asking whether the UN Sustainable Development Goals address the link between the exploitation of migrant labor and natural resources in the meat industry, this project concludes

[141] Sans and Combris. 2015,"World Meat Consumption Patterns"., 106–11.
[142] Jarosz, Lucy,"Energy, Climate Change, Meat, and Markets: Mapping the Coordinates of the Current World Food Crisis," *Geography Compass* 3 (6): 2065–83. 2009.:2079.

that another critical gap exists in the language of the SDGs. The Agenda fails to point out meat, animals, and livestock by name but conflates them with all other forms of agriculture and food instead. An opportunity is missed, for example, in the language of Goals 2, to link livestock and climate change precisely, and to link livestock with socio-economic inequality and imbalanced nutrition.[143] Brazil's VNR does not connect labor with natural resource exploitation despite proven links between slavery and deforestation. The US' reports, despite ample discussion of livestock and agriculture, entirely omit any mention of the immigrant labor forces that make those industries possible and productive. To the knowledge of the researcher, no partnership addresses the mutual exploitation of migrant labor and natural resources in the livestock sector. The SDGs can address intersectional problems with integrated solutions, but the research points to some rhetorical gaps and problems to overcome. Emphasizing under-consumption of meat while failing to recognize the footprints of over-consumption entirely, can be interpreted as a selective communication bias that frames the problem of poverty as more worthy of international attention than the problem of accumulation and waste. Similarly, there cannot be a discussion about productivity and food, without an acknowledgment of decent work, because doing so relegates labor to a function of economic growth when it is in fact a highly intersectional human right and a critical vehicle for integrated sustainable development solutions.

Though it is intended to be a framework for sustainable development, the Agenda does not sufficiently express strategic vision of interconnections between society, the economy and the environment. The discrepancy between the language of the agenda and the language of interconnectivity is evident in the way labor is subordinately framed in relationship to economic growth, in the lack of attention devoted to agricultural work, animals, and to the ecological

[143] Sans and Combris, "World Meat Consumption Patterns" 2015: 106–11.

footprint of industrial livestock management systems. These omissions are further accompanied by repeated discussions of small-scale production challenges and industrial labor productivity in the context of national economic growth. This study therefore finds that the language of the 2030 Agenda avoids challenging dominant systems of production and consumption and reinforces a top-down policy making bias, as demonstrated in its reluctance to discuss industrial livestock and overconsumption but willingness to focus on small-scale production in developing states and malnutrition. Its framework for meaningful cross-sectoral partnerships can ameliorate this shortcoming by encouraging more work on interlinkages. Future research can further analyze the partnership network and whether the nature of initiatives is balanced accross pillars of sustainability (with emphasis on the intersections,) or whether they reflect a more narrow, siloed interpretation of the Agenda and of sustainable development. The results of this analysis demonstrate a consistent absence of labor theme representation across documents. This oversight emphasizes the unique vulnerability of workers in precarious conditions and exploitative sectors; it shows that their representation at the international level can be stronger. The relationship between labor migration and the environment is not recognized at all despite workers' proximity to the abuses of natural resource extraction. Moving forward with durable solutions to mitigate climate change and reduce socio-economic inequalities, more considerable weight needs to be placed on intersectional analysis and policy-making around the labor, migration, environment nexus to ensure the most vulnerable are not left behind.

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Annex: Content Analysis Frequencies by Document

The 2030 Agenda for Sustainable Development (Declaration, Goals, and Targets)

Theme / frequency Terms / *frequency*	Meat / 0 *Livestock/1* *Food* /15 *Nutrition/6* *Animal* / 1 *Agriculture/11*	Labor (labour) / 10 *Workers* / 3 *Slavery* / 1 *Unions* / 3 *Wages* / 1	Migration / 6 *Citizenship* / 3 *Immigrant* / 0 *Migrant* / 8	Environment / 16 *Emissions* / 3 *Climate* / 26 *Deforestation* / 1 *Carbon Dioxide* / 0 *Fossil Fuels* / 2
Total Frequency	34	18	17	48

Global Indicator Framework

Theme / frequency Terms / *frequency*	Meat / 0 *Livestock/1* *Food* /16 *Nutrition/2* *Animal* / 1 *Agriculture/ 17*	Labor (labour) / 11 *Workers* / 4 *Slavery* / 1 *Unions* / 1 *Wages* / 1	Migration / 3 *Citizenship* / 3 *Immigrant* / 0 *Migrant* / 5	Environment / 4 *Emissions* /2 *Climate* / 26 *Deforestation* / 1 *Carbon Dioxide* / 0 *Fossil Fuels* /9
Total Frequency	37	18	11	43

The United States National Report 2010

Theme / frequency *Terms / frequency* *[Extended terms] / frequency*	Meat / 0 *Livestock/*1 *Food* / 62 *Soybeans* / 0 *Animal / 11*	Labor (labour) / 4 *Workers* / 5 *Slavery* / 0 *Unions* / 1 *Wages* / 0	Migration / 0 *Citizenship* / 0 *Immigrant* / 0 *Migrant* / 0	Environment / 113 *Emissions* / 95 *Climate* /35 *Deforestation* / 1 *Carbon Dioxide* / 4 *Fossil Fuels* / 1
Total Frequency	73	13	2	250

United States National Report 2008

Theme / frequency *Terms / frequency* *[Extended terms] / frequency*	Meat / 4 *Livestock/* 31 *Food* /100 *Soybeans* / 0 *Animal / 16*	Labor (labour) / 0 *Workers* / 4 *Slavery* / 0 *Unions* / 1 *Wages* / 0	Migration / 0 *Citizenship* / 0 *Immigrant* / 1 *Migrant* / 0	Environment / 49 *Emissions* / 11 *Climate* / 30 *Deforestation* / 3 *Carbon Dioxide* / 1 *Fossil Fuels* / 1
Total Frequency	151	5	1	95

Brazil's 2017 Voluntary National Review on the SDGs

Theme / frequency *Terms / frequency* *[Extended terms] / frequency*	Meat / 1 *Livestock/* 2 *Food* / 17 *Nutrition/* *Soybeans* / 1 *Animal / 0*	Labor (labour) /8 *Workers* / 2 *Slavery* / 0 *Unions* / 1 *Wages* / 3	Migration / 0 *Citizenship* / 2 *Immigrant* / 0 *Migrant* / 3	Environment / 10 *Emissions* / 1 *Climate* / 7 *Deforestation* / 1 *Carbon Dioxide* / 0 *Fossil Fuels* / 0
Total Frequency	19	14	5	19

UN Sustainable Development Goals Report 2016

Theme / frequency Terms / *frequency*	Meat / 0 *Livestock/ 0* *Food* / 26 *Nutrition/ 2* *Animal* / 1 *Agriculture/ 23*	Labor (labour) / 21 *Workers* / 8 *Slavery* / 0 *Unions* / 0 *Wages* / 4	Migration / 3 *Citizenship* / 1 *Immigrant* / 0 *Migrant* / 3	(natural) Environment / 9 *Emissions* / 7 *Climate* / 27 *Deforestation* / 1 *Fossil Fuels* / 13
Total Frequency	51	33	7	57

UN Sustainable Development Goals Report 2017

Theme / frequency Terms */ frequency*	Meat / 0 *Livestock/ 1* *Food* / 22 *Nutrition/ 2* *Animal* / 2 *Agriculture/ 21*	Labor (labour) / 21 *Workers* / 16 *Slavery* / 0 *Unions* / 0 *Wages* / 2	Migration /2 *Citizenship* / 0 *Immigrant* / 0 *Migrant* / 4	(natural) Environment / 12 *Emissions* / 12 *Climate* / 44 *Deforestation* /c *Fossil Fuels* / 18
Total Frequency	48	39	6	96

Progress towards the Sustainable Development Goals Report of the Secretary-General. 3 June 2016

Theme / frequency Terms */ frequency*	Meat / 0 *Livestock/ 3* *Food* / 12 *Nutrition/ 1* *Animal* / 1 *Agriculture/ 7*	Labor (labour) / 13 *Workers* / 5 *Slavery* / 0 *Unions* / 0 *Wages* / 4	Migration / 3 *Citizenship* / 0 *Immigrant* / 0 *Migrant* / 2	Environment / *Emissions* / 4 *Climate* / 22 *Deforestation* / 1 *Fossil Fuels* / 4
Total Frequency	24	20	5	31

Progress towards the Sustainable Development Goals Report of the Secretary-General. 11 May 2017

Theme / frequency Terms */ frequency*	Meat / 0 *Livestock/ 0* *Food* / 10 *Nutrition/ 1* *Animal* / 2 *Agriculture/ 9*	Labor (labour) / 5 *Workers* / 5 *Slavery* / 0 *Unions* / 0 *Wages* / 1	Migration / 0 *Citizenship* / 0 *Immigrant* / 0 *Migrant* / 3	Environment / 4 *Emissions* / 4 *Climate* /14 *Deforestation* / 0 *Fossil Fuels* / 5
Total Frequency	22	11	3	27

Critical milestones towards coherent, efficient and inclusive follow-up and review at the global level Report of the Secretary-General. 15 January 2016

Theme / frequency Terms / *frequency*	Meat / 0 *Livestock/ 0* *Food* / 5 *Nutrition/ 0* *Animal* / 0 *Agriculture/ 1*	Labor (labour) / 3 *Workers* / 0 *Slavery* / 0 *Unions* / 0 *Wages* / 0	Migration / 0 *Citizenship* / 0 *Immigrant* / 0 *Migrant* / 0	Environment / 3 *Emissions* / *Climate* / 10 *Deforestation* / 0 *Carbon Dioxide* / 0 *Fossil Fuels* / 0
Total Frequency	6	0	0	13

U.S. Partnerships/Brazil Partnerships: 10 YFP

Theme / frequency Terms / *frequency*	Meat / 3 *Livestock/ 1* *Food* / 236 *Nutrition/ 29* *Animal* / 3 *Agriculture/ 27*	Labor (labour) / 2 *Workers* / 0 *Slavery* / 0 *Unions* / 0 *Wages* / 0	Migration / 0 *Citizenship* / 0 *Immigrant* / 0 *Migrant* / 0	Environment / 11 *Emissions* / 1 *Climate* / 0 *Deforestation* / 0 *Carbon Dioxide* / 0 *Fossil Fuels* / 0
Total Frequency	299	2	0	12

U.S. Partnerships: CCAC

Theme / frequency Terms / *frequency*	Meat / 0 *Livestock/0* *Food* /0 *Nutrition/0* *Animal* / 0 *Agriculture/ 0*	Labor (labour) / 0 *Workers* / 0 *Slavery* / 0 *Unions* / 0 *Wages* / 0	Migration / 0 *Citizenship* / 0 *Immigrant* / 0 *Migrant* / 0	Environment / *Emissions* / 4 *Climate* / 0 *Deforestation* / 0 *Carbon Dioxide* / 0 *Fossil Fuels* / 0
Total Frequency	0	0	0	4

U.S. Partnerships: Aloha Challenge

Theme / frequency Terms / *frequency*	Meat / 1 *Livestock/ 3* *Food* / 60 *Nutrition/ 0* *Animal* / 2 *Agriculture/27*	Labor (labour) /3 *Workers* / 0 *Slavery* / 0 *Unions* / 0 *Wages* / 0	Migration / 0 *Citizenship* / 0 *Immigrant* / 0 *Migrant* / 0	Environment / 3 *Emissions* / 0 *Climate* / 0 *Deforestation* / 0 *Carbon Dioxide* / 0 *Fossil Fuels* / 3
Total Frequency	93	3	0	6

U.S. Partnerships: Urban LEDS

Theme / frequency Terms / *frequency*	Meat / 0 *Livestock/ 0* *Food* / 4 *Nutrition/0* *Animal* / 0 *Agriculture/ 1*	Labor (labour) / 0 *Workers* / 0 *Slavery* / 0 *Unions* / 8 *Wages* / 0	Migration / 0 *Citizenship* / 0 *Immigrant* / 0 *Migrant* / 0	Environment / 4 *Emissions* / 150 *Climate* / 70 *Deforestation* / *Carbon Dioxide* / 15 *Fossil Fuels* / 8
Total Frequency	5	8	0	247

U.S. Partnerships: SEED 10Y

Theme / frequency Terms / *frequency*	Meat / 0 *Livestock/ 0* *Food* / 10 *Nutrition/0* *Animal* / 0 *Agriculture/ 8*	Labor (labour) /2 *Workers* / 0 *Slavery* / 0 *Unions* / 1 *Wages* / 0	Migration / 0 *Citizenship* / 0 *Immigrant* / 0 *Migrant* / 0	Environment / 17 *Emissions* / 9 *Climate* / 12 *Deforestation* / 1 *Carbon Dioxide* / 15 *Fossil Fuels* / 5
Total Frequency	18	3	0	59