A global food system in dysfunction and implications for future governance

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**Executive summary**

In just two years, the number of people facing acute food insecurity has surged from 135 million in 53 countries to 345 million in 82 as the world finds itself dangerously close to the brink of a ‘hunger catastrophe’ (WFP, 2022a; 2022b) brought about by a dysfunctional cocktail of systemic market failures, policy failures, and institutional failures that characterise the contemporary global food system. The symptomatic transformational strategies later outlined in this essay fail to address the cause of the contemporary food crisis at its roots; governance of the food system must pivot away from a focus on utilitarian market failure approaches to one that addresses deontological justice failures (Blunden, 2022) to successfully transform the global economy into one that reflects Kant’s (1785) three-maxim Categorical Imperative for functional and ethical society, for which economic decision-making must be re-embedded back into society and the natural world (Polanyi, 1945). Following critical debate, this essay comes to the conclusion that a solely market or non-market approach has become unworkable to achieve this end with our best course of action being a two-pronged approach that ought to be reflected in the rhetoric of our international institutions.

**Introduction**

The global economy finds itself at a crossroads; moderate or severe food insecurity affects 1 in 3 people on the planet with over 720 million facing hunger (FAO, 2021a) in a dysfunctional food system that on its current trajectory is set to preclude the 2025 Paris Agreement goal of restricting global warming to 1.5°C (Godfray et al., 2010; Clark et al., 2020; UNEP, 2022). Global economic activity in the global food system has contributed to breaches in at least four planetary boundaries—climate change, biodiversity, land-system change, and biogeochemical flows as we leave the safe operating space for humanity behind on a path toward global catastrophe (UNFCCC, 2015; Raworth, 2017). In the past the view that global food insecurity arises from insufficient production has gained traction (Stokstad, 2008; Canfield et al., 2021) however, the system already produces enough food to feed 10 billion people (Holt-Giménez et al., 2012) with per capita food availability forecasted to rise until 2050 (Alexandratos & Bruinsma, 2012), lending itself to the idea that the problem lies instead in systemic power and distribution within the food system (Stokstad, 2008).

**A global food system in crisis**

The resilience of the prevailing system of global trade that sees nations export products they possess a comparative advantage in while importing those in which they possess a comparative disadvantage (Qadir et al., 2003) has been called into question amid concerns that it is becoming increasingly fragile (Fraser et al 2005, D’Odorico et al. 2010, Suweis et al 2015, Puma et al., 2015, Marchand et al., 2016; Gaupp, 2020; Casellas Connors et al., 2021). Hecksher-Ohlin theory posits that these comparative advantages are largely based on the abundance of resources (Heckscher, 1949), exemplified by the case of Ukraine which specialises in the production of wheat, maize, barley, and oilseed crops as a result of comparative advantages derived from the nation’s highly fertile loess soil belt, a favourable climate, and an abundance of freshwater (Panagos et al., 2016; Matuszak, 2021). This common strategy of geographical specialisation in conjunction with the rise of globalisation has led to the creation of globally important production zones, or breadbaskets, such as those in Ukraine, that have become highly vulnerable to climate change (Teixeira et al., 2013) with global supply chains rendered increasingly vulnerable to natural disasters and political or economic shocks (Matuszak, 2021), illuminated by the ongoing conflict in the country that has exacerbated food insecurity and cost of living globally. Climate change is set to majorly affect comparative advantages around the world (Costinot et al., 2016) with wheat yields in Australia projected to halve under 2°C of warming (Asseng et al., 2011), leading to changes in agricultural land use that will result in unprecedented habitat loss and further CO2 emissions (Gibbs et al., 2010) in a food system that already produces 30% of global greenhouse gas (GHG) emissions (Vermuelen et al., 2012; Rosenzweig, 2020), with potential for this trend to cause a crisis in global food security in the absence of radical change and informed governance.

A wave of neoliberal policies beginning in the 1980s has culminated in a relatively small number of transnational agribusinesses possessing a high degree of influence in international markets in what has been described as a “profound reconfiguration” of the global food system (Hendrickson et al., 2008; Clapp & Isakson, 2018; Clapp, 2021: p.404). These firms are incentivised to advance the short-term interests of their shareholders rather than the public good (Wu, 2018; Meagher, 2020) and thereby view business opportunities in poorer food insecure nations as far less desirable than those opportunities that serve the wealthier middle and upper global classes characterised by higher levels of consumption and disposable income (Akram-Lodhi, 2022). This phenomenon is set to be exacerbated by the rising demand for biofuels which provides another profitable alternative for transnationals following aggressive subsidisation policies in the US and EU as part of their climate change mitigation objectives (European Commission, 2003; U.S. Congress, 2007; Holt-Giménez et al., 2012) with food calorie consumption in Sub-Saharan Africa previously projected to decrease by 8% in the event that biofuel production expanded drastically (Von Braun, 2007).

The Green Revolution of the 1960s and the prominence of Solovian theory as a solution to crises gave rise to the widespread use of high-yielding crop varieties of wheat and rice that require a large supply of organic and inorganic fertilisers, pesticides, and herbicides (Briggs, 2009; Jalota et al., 2018), encouraging a capital-led approach that precipitated industrial agriculture (Ananda & Herath, 2003). The growing concentration of market power in the hands of a few globalised transnational corporations has joined seed and agrochemical businesses into one, with the three largest seed suppliers growing their market share from 10% in 1990 to 55% in 2015 (Gaupp, 2020), giving them the power to influence what seeds are available to smallholder farmers (Clapp, 2021). These agri-businesses engineer seeds known as ‘ecological debtors’ that require ecological capital from other parts of the world (Wield et al., 2010; Niu et al., 2022), marking a departure from 10,000 years of sustainable agricultural techniques (Hirst, 2019) and rendering the food system increasingly reliant on fertilisers that increase costs for farmers while increasing emissions of N2O and CO2 (Jalota et al., 2018); this aggravates the climate crisis while also eroding soil culminating in the loss and abandonment of valuable agricultural land (Lal, 2006; Pimentel, 2006; Rhodes, 2014) as well as the subsequent agricultural expansion that devastates ecosystems (Loreau et al., 2001; Perrings et al., 2006; 2010). The high degree of concentration in seed markets has brought about a monoculture of crops that are genetically uniform and therefore highly vulnerable to pests and diseases (Tilman, 1999; Rhodes, 2014) with these diseases predicted to increase in both range and severity under the changing climate (Evans et al., 2008; Gregory et al., 2009), posing a serious threat to food production around the world. The rise of mega-corporations can also have negative impacts on workers within the food system, exemplified by Unilever opting to halve their workforce as a result of their ‘Path to Growth’ initiative that sought to funnel more money to shareholders (Rossman, 2010).

The rise of neoliberalism peddled by international institutions such as the WTO and the World Bank has also driven the deregulation of commodity futures markets (GRAIN, 2008; Clapp & Isakson, 2018), giving rise to the heightened financialisation of the global food system, defined as “the increasing importance of financial markets, financial motives, financial institutions, and financial elites in the operation of the economy and its governing institutions” (Epstein, 2005: p.3). This financialisation has exposed agricultural prices to broader trends in financial markets (Russi, 2013), leading to higher and more volatile prices that disrupt the global poor’s food consumption (Campbell, 2010; Clapp, 2014), exacerbating hunger and food insecurity in the world’s poorest regions. Financialisation also increases the number of actors involved in global commodity chains, allowing corporations the opportunity to blur their role in externalising the social and environmental costs of their actions (Clapp, 2014).

A growing trend of meatification of diets as a result of rising incomes and long-held views around the superiority of animal proteins (Weis, 2015) has seen meat consumption as a proportion of diets double in high income countries over two generations (Weis, 2020), with this trend found to be increasingly unsustainable due to the ‘unprecedented’ contributions to GHG emissions from growing meat production (Le & Sabat, 2014; Joyce et al., 2014) as well as its role in contributing to fast-rising levels of obesity and non-communicable diseases (Weiss, 2020). The expansion of meat production represents a vast misallocation of resources as animals’ metabolic processes render them extremely inefficient in generating usable nutrition (Pimentel & Pimentel, 2003; Foley et al., 2011) while requiring 10 times as much land when compared to crop production (Matheny, 2003). The amount of grain that livestock consume in the U.S. alone has long been sufficient to feed over 840 million people (Pimentel & Pimentel, 2003), more than the high-end estimate for the number of people facing hunger which stands at 811 million (FAO, 2021a).

**Transformational strategies for stakeholders to engage in**

While this paints a relatively bleak picture of the future of food, there are some things stakeholders can do to alleviate some of the systemic causes of food insecurity as well as some of the environmental and social costs externalised by the contemporary food system. Also known as the international peasants movement, consumers and policymakers can promote food sovereignty through relocalisation, defined as “a society-building strategy based on the local production of food… and the local development of currency, governance, and culture” (Trinh, 2020). This sees local territorial markets protected from industrialised low-cost transnationals (Trinh, 2020) having the effect of geographically diversifying food production away from a dangerous reliance on breadbasket production zones, albeit at the cost of production efficiency from the theory of comparative advantage (Findlay, 1991). Improved food sovereignty in developing countries would also have the effect of reducing their reliance on teleopathic profit-driven agribusinesses and a capitalist system of global trade that does not serve their best interests, although resource scarcity and desertification pose significant challenges to this strategy (Ibáñez et al., 2007).

To combat soil erosion from intensification and heightened GHG emissions from excessive use of fertilisers, farmers can employ integrated nutrient management strategies derived from agroecology (Kramer et al., 2006), partly defined as the “application of ecological concepts and principles to the design and management of sustainable agroecosystems” (Altieri 1995; Gliessman, 1990; 1997; 2013; 2018: p.599), such as permaculture and the Three Sisters mixed cropping system that saw Native Americans utilise synergies between crops to enrich soil and deter pests (Hirst, 2019). However, these strategies are labour-intensive and there are concerns that they cannot substitute for industrialised monoculture crop production (Rhodes, 2014).

The non-governance and fragmented oversight of agribusiness mergers (European Union, 2004; Dimitrov et al., 2007; US Department of Justice, 2010; Canada Competition Bureau, 2011) has precipitated highly damaging environmental and social costs (Clapp, 2018; 2021) with there being calls for a UN-sponsored international convention to govern mergers (ETC Group, 2017); however, this has fallen on deaf ears (Clapp, 2018).

Widespread adoption of plant-based or low-meat diets has been shown to reduce rates of obesity and risks of non-communicable diseases such as diabetes (Barnard et al., 2009), cancer (Key et al., 2014; Orlich et al., 2015), and cardiovascular disease (Appleby & Key, 2016) while also allowing for more efficient resource allocation within the food system. However, this strategy of promoting sustainable diets faces immense challenges amid assertions that “rational humans have become rationalising humans ready to disregard science, morals, and their own wellbeing” in order to justify their existing behaviour (Baur, 2008; Baur & Stone, 2015; Kevany et al., 2018: p.437) with this phenomenon exploited by agribusinesses that exert power over what research questions are asked (Krimsky & Schwab, 2017; Guillemaud et al., 2016), developing competing discourse that works to reshape or reinforce consumer attitudes to serve corporate interests (Fuchs, 2007; Clapp & Fuchs, 2009). Empirical research has found that non-competing inedible plant material can be used more efficiently in the production of biofuel (Devi et al., 2022); if this principle is extended to livestock, it could take enormous pressures off of the food system (Huber, 2000), improving prospects for food security in the future.

**Future governance of the food system**

All of the symptom-orientated market failure approaches mentioned above are symbolic of a wider movement that seeks to remedy the harmful symptoms of neoliberalism in an economy that has become increasingly disembedded in society and the natural world with social and environmental exchanges playing a limited role in wider decision-making (Polanyi, 1944; Kay, 1997; Blunden, 2022). Addressing the root structural causes of food insecurity in the food system to replace neoliberalism with an embedded system where all four fictitious capitals are sustainably reproduced in the long run (O’Hara, 2014) will require effective and focused governance able to persevere through crises, although where this locus of power should lie is the subject of ongoing debate.

One view stipulates that the future of the global food system should be governed by responsible corporations subscribing to the principle of corporate citizenship that envisages such corporations as social providers, political channels, and civil rights enablers (Matten & Crane, 2005). This concept is championed by the case of agribusiness conglomerate Olam International which employs a sustainability framework that practically aligns principles of corporate governance in the global food system with the United Nations Sustainable Development Goals to weave sustainability into the fabric of the company’s everyday decision-making (Olam International, 2023). Olam International routinely engages in social value initiatives whether it’s providing nutrition in the form of fortified rice to their Ghanaian workforce or working to restore forest areas and end deforestation as a signatory to the Cocoa & Forests Initiative (Olam International, 2022; World Cocoa Foundation, 2023). Olam International has also pioneered social and environmental audit and reporting tools for businesses in AtSource and Terrascope as part of its mission to reimagine global agriculture and food systems (AtSource, 2023; Terrascope, 2023). However the efficacy of these methods and the sincerity of Olam’s mission and values have been increasingly contested as performative discourse amid a history of illegal logging on the part of its Congolese subsidiary while also soliciting a supplier perpetuating unsustainable intensification in its Gabon oil palm plantations (REDD, 2012; BBC, 2016; GRAIN, 2017; Eco-Business, 2020).

The regulatory vacuum left by the rise neoliberalism has been partly filled by corporations employing corporate social responsibility (CSR) business models that follow a principle of ‘shared value’ (Porter & Kramer, 2011; Scherer & Palazzo, 2011) with a growing movement calling for multi-stakeholderism—a concept that sees corporations engage with third-party academics and civil society organisations (CSOs) to address jointly-perceived problems and democratise corporate power (Food Systems 4 People, 2021). While CSR has undoubtedly revolutionised the role of corporations in wider society (Scherer & Palazzo, 2011), a market-led approach to reliably and effectively govern the food system through key social and environmental issues has been widely criticised. A wealth of literature has found that the incidence of CSR initiatives is reduced in times of financial crisis (Njoroge, 2009; Karaibrahimoglu, 2010; Giannarakis & Sariannidis, 2012; Bansal et al., 2014; Fehre & Weber, 2016) with the form and purpose of corporations to provide value to shareholders leading to a focus almost entirely on win-win initiatives, meaning that it is impossible for such a market-led approach to constitute an embedded economy (Polanyi, 1944; Banerjee, 2014; Savevska, 2014). Corporations can also experience external pressure to abandon responsible and sustainable practices, exemplified by the backlash BlackRock received as a result of their ESG-guided investment policy and a wider industry boycott of fossil fuels (FT, 2022). Critics also expunge the view that CSR works to eliminate the possibility of meaningful state regulation (Savevska, 2014).

iPES Food & ETC Group (2021) dismiss this market-led approach, subscribing to the view that corporations are plagued by profit-seeking short-termism and while they may be incentivised to address some of the aforementioned issues through multi-stakeholderism, the allure of technological advances and Big Data to policymakers as ‘silver bullet’ solutions will lead to an epidemic of privacy invasions and unethical behaviour. The report calls for institutions and CSOs to govern and regulate the food system, working to place a premium on healthy soils, strengthen labour rights, and enforce mandatory reporting alongside CSOs bolstering corporate accountability while also promoting agroecological territorial markets through community supported agriculture groups and supporting legislation that seeks to promote food sovereignty and protect the smallholder peasant farmers that act as the primary source of nourishment for 70% of the world population (Barham, 1997; Ostrom, 1997; iPES Food & ETC Group, 2021; ETC Group, 2022). However, institutions and CSOs face significant challenges in their ability to realise this vision as private interests have been increasingly incorporated into public systems of regulation characterised by inefficient bureaucracy to form a ‘Medici vicious circle’ of regulatory capture (Flynn et al., 1999; Zingales, 2017). It is questionable whether such an approach can be relied upon in the long term as the UK Department for Environment, Food, and Rural Affair’s decade-long mission to guide corporations to adopt sustainable agricultural practices has been thus far unsuccessful amid a parliamentary investigation into country-wide soil degradation (DEFRA, 2009; Environment, Food, and Rural Affairs Committee, 2022) while the success of CSOs in influencing Deutsch Bank’s position on agricultural commodity speculation has been undone following a backtracking by corporate executives (Clapp, 2014).

The most significant barrier to a non-market approach by far is the current institutional climate surrounding the United Nations—the UN’s Food and Agriculture Organisation has historically promoted a productivity-led solution to global food insecurity and continues to resist calls for it to recognise and sufficiently address the importance of the role smallholder farmers play in the global food system (Canfield et al., 2021; ETC Group, 2022). The UN Sustainable Development Group signed a strategic partnership with the market-orientated World Economic Forum ahead of the 2021 United Nations Food System Summit (UNFSS) where agroecological solutions to the food crisis were side-lined in favour of stakeholder capitalism and multi-stakeholderism in a summit alleged to be an effort by multinational corporations and export-oriented countries to subvert the growing power of the Committee on World Food Security (Canfield et al., 2021), the primary advocate for public governance of the global food system largely in line with iPES Food & ETC Group’s (2021) vision.

**Conclusion**

Despite the untenability of both ‘business as usual’ and a market-led approach (Scheyvens et al., 2016; iPES Food & ETC Group, 2021), it is clear that following the latest UNFSS, a solely non-market approach to effectively re-embed the economy and remedy the contemporary food crisis is unworkable in the current institutional climate in which CSOs find themselves. Although, perhaps the conflicting approaches pursued by our international institutions has unwittingly set us on a advantageous path, laying the groundworks for a two-pronged approach where one consortium promotes sustainable intensification and corporate citizenship through multi-stakeholderism supported by increasingly effective and cost-efficient social audits and reporting empowered by the growing capabilities of big data analytics. These advances power sophisticated public data tools endorsed by governments and international institutions striving to hold the neoclassical corporation to account and motivate them to internalise the external social and environmental costs of their activity into their decision-making processes (iPES Food, 2021; Choi & Park, 2022). In tandem with these efforts, the other institutional bloc works to promote agroecology and territorial markets for smallholder farmers, reducing their reliance on globalised agrichemical corporations and safeguarding their livelihoods so that both approaches may work together to converge for a better future (Dumont et al., 2018). This essay calls for a reformed United Nations strategy to reflect this dual approach and recognise the imperative value of smallholder farmers to the global food system, thus ending the decades of ineffectual infighting and competing ideologies that continue to polarise institutional governance on this issue and reinforce Hale et al.’s (2013) ‘institutional gridlock’ at a time where favouring a single rhetorical approach seems unlikely to be enough to prevent the worst effects of the climate crisis and alleviate food insecurity and hunger worldwide.

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# **Appendix**

**Original assignment brief under Professor John Hirst:**

**Assignment Part A:** Critically evaluate the policy, market, and institutional failures that have led to the current food crisis, and its interconnection with other global crises and systemic disorders; then consider the key arguments for and against different approaches to tackling the food crisis, and what various stakeholders could do to reverse the decline in global food security and the adverse social and environmental impacts of the global food system, drawing on relevant literature, reports, and other sources.

**Part B:**  Critically compare iPES-Food’s non-market approach to transforming the food system with that of Olam International’s market-based approach, in light of iPES and ETC Group’s contention that an agri-business solution will only exacerbate social and environmental problems; then discuss the business management and governance implications and transformational opportunities and challenges involved in solving those problems, drawing on relevant sources and theories.