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## SUSTAINABLE DEVELOPMENT, AGENDA 2030 AND FOOD SECURITY IN HISTORICAL PERSPECTIVE

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**ABSTRACT:** The sustainable development (SD) concept has won substantial popularity in recent decades. At the same time, neoliberalism (the socio-economic orthodoxy since the mid-1970s) is somewhat put in the shade. The paper attempts to find out whether the SD paradigm and its recent incarnation (Agenda 2030) constitutes the decisive break from the mainstream. The second aim is to assess whether the concept of food security is adequately addressed by the Agenda 2030. The study shows that Agenda 2030, with its 17 Sustainable Development Goals, is a much broader concept than preceding MDGs, but it still cannot guarantee the attainment of food security both in the short-term (the risk of commodity price bubbles) and in the longer-term (i.e. till 2030) due to the prevalence of extreme poverty, high income inequality, structural weakness of many developing countries and inadequate global regulation.

**KEYWORDS:** sustainable development, neoliberalism, Agenda 2030, food security, poverty

## Introduction

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Sustainable development (SD) is commonly referred to as meeting the needs of the present generation without compromising the ability of future generations to meet their own needs. SD goes along with heterodox economics in its holistic, pluralistic and interdisciplinary approach. The concept takes into account both time (i.e. present and future generations) and institutions which are often ignored by orthodoxy.

Therefore, the concept of sustainable development has won great popularity in recent decades. It is esteemed not only by popular media and academic world, but also by many environmental activists. SD is often contrasted with the mainstream focus on economic growth measured by GDP dynamics (which represents a proxy of short term performance) and the level of GDP per capita (the proxy of the standard of living and/or even wealth of a country or a society). The SD concept (sometimes referred to as paradigm), however, often focuses on two pillars (i.e. economic and environmental). The third social pillar of the SD paradigm has been neglected in popular discourse. Mainstream economics aspired to be positive economics (i.e. value-free). That is the reason why the debates about income and wealth inequality or about social security and employment contracts were sporadic. The main goal was to safeguard economic growth via market mechanisms. These tendencies were further strengthened after the collapse of the communist Eastern Bloc. Hence, the so-called Washington Consensus reinforced free market imperialism. Capitalism (to be more precise, its neoliberal incarnation) was portrayed as the only viable socio-economic system. Hence, the popularity of the acronym TINA (there is no alternative). The free market was portrayed as a smoothly functioning fair mechanism. For mainstream economists, failures of this mechanism were minor (especially in comparison with government failures) and could practically emerge only in the environmental sphere in the form of negative externalities or insufficient provision of public goods. The remedy to these minor inefficiencies of the market system was to create yet another market (as in the case of the CO<sub>2</sub> emission trading scheme) and the reinforcement of the environmental pillar of SD.

Yet, the edifice of mainstream economics was undermined by the global financial crisis that started in September 2008 with the collapse of Lehman Brothers – the fourth largest investment bank in the US. The contagion spread to Europe and resulted in the Great Recession (the biggest recession since the Great Depression in the 1930s). This financial and economic turmoil was a clear indicator that developed countries are not immune to serious, multi-faceted crises (Szydło, 2013). The aim of the paper is to assess (mainly via the extensive review of literature, the UN documents and the analysis of FAO

data) whether SD concept (especially Agenda 2030) represents a decisive break from current orthodoxy and whether it adequately addresses food security and poverty. To achieve this aim historical perspective is employed.

## Sustainable development

The United Nations Conference on the Human Environment in Stockholm, June 5-16, 1972 (Stockholm Declaration) represented “a first taking stock of the global human impact on the environment, an attempt at forging a basic common outlook on how to address the challenge of preserving and enhancing the human environment” (Handl, 2012).

Colander et al. (2004) optimistically claim that “economics is moving away from a strict adherence to the holy trinity – rationality, selfishness and equilibrium – to a more eclectic position of purposeful behaviour, enlightened self-interest and sustainability”.

The process of creation of the sustainable development concept coincided with the collapse of the Bretton Woods system on August 15th 1971, when the US unilaterally terminated the convertibility of USD to gold and the demise of the Smithsonian Agreement. It was soon followed by the ending of the “brief Keynesian experiment” in West Germany with the resignation of Schiller as minister of economics and finance in 1972 (Leaman, 2009).

It is also worth remembering that the collapse of the Bretton Woods system briefly preceded the first oil crisis in the early 1970s. This paradigm shift is often referred to as the Hayekian counter-revolution, monetarist revolution or, as in the case of Harvey (2005), the Volcker shock.

The creation of the SD theory can be treated as a progressive alternative to the Keynesian system, particularly in the environmental sphere or pillar. This springs from the fact that both SD and neoliberalism were being implemented in tandem. The rise to power of the new form of liberalism (i.e. neoliberalism) under Ronald Reagan, Paul Volcker (the chairman of the US Fed) and Margaret Thatcher in the early 1980s was happening practically at the same time when the SD concept was popularised by the UN conferences. In fact, Volcker replaced Miller at the Fed already in August 1979. Yet, monetarist money supply targeting, as suggested by Friedman, was first introduced in the German Bundesbank. This was preceded by “the revolt of the thirty-some-things”, which initiated the monetarist anti-Keynesian revolution in German economics, especially from 1970 to 1976 (Janssen, 2006). Also, Chile was an early laboratory for neoliberal ideas and policies. Augusto Pinochet had called upon a local group of Chicago-trained economists to propose a radically different economic program (Valdes, 1995). This group was actively supported by Hayek and Friedman. In April 1975, the former economist paid

a controversial visit to Chile, governed by a brutal dictator (De Haan, 2016). Already by 1976, the year when Milton Friedman was awarded the Nobel Prize in economics, the “Chicago Boys” gained control of Chilean economic policy. Undoubtedly, neoliberalism is based on economic freedom (especially for the rich), while political freedom, democracy and human rights are rather forgotten. The dominant ideology has made great progress in depoliticising many spheres of human life.

Hence, sustainable development might be viewed as a democratic, much broader and progressive approach towards human life on Earth. It became common knowledge that the term sustainable development was popularised by the so-called Brundtland report ‘Our Common Future’, published by the World Commission on Environment and Development (WCED) in 1987. The Brundtland report provides the classic definition of sustainable development: “development which meets the needs of the present without compromising the ability of future generations to meet their own needs”. As noted by Tulloch and Neilson (2014), “the emphasis on ‘needs’ and ‘development’ in the same breath is significant as it positions economic development as the critical issue for meeting people’s needs – both now and in the future – while ecological sustainability is only implicitly and indirectly identified and subtly cast as a problem of the future”. According to Spash and Guisan (2021), “while needs to remain objective, how they are expressed, perceived, and fulfilled will always be subjective, conditioned by institutional arrangements and wider social and cultural contexts”. Unquestionably, the definition of SD provided in Brundtland’s report is vague, which makes it vulnerable to reinterpretations by the current orthodoxy. Indeed, according to Tulloch and Neilson (2014), the first step in the neoliberalisation of sustainable development was achieved in the Brundtland Report. The concept was also depoliticised, and “the power relations and historical specificity of the presently dominant capitalist mode of production are taken out of the account, and ‘economic and social development’ is ideologically neutralised” (Tulloch & Neilson, 2014).

The earlier definition of SD, infrequently referred to even by the experts in the field, was formulated in the World Conservation Strategy already in 1980. This Strategy (IUCN, 1980) was prepared and advocated by the International Union for Conservation of Nature and Natural Resources (IUCN), UNEP, WWF, FAO and UNESCO. According to the World Conservation Strategy, “for development to be sustainable, it must take account of social and ecological factors, as well as economic ones; of the living and non-living resource base; and of the long term as well as the short term advantages and disadvantages of alternative actions” (IUCN, 1980). Paradoxically, this older definition by the IUCN (1980) provides a fuller and more progressive definition of SD than the younger formulated in the Brundtland report “Our Com-

mon Future” in 1987. It needs to be emphasised that the classic Brundtland definition introduced a new term, ‘needs’. At the same time, it got rid of references to social, ecological and economic factors and resigned from allusion to the living and non-living resource base. From this perspective, it could be argued that SD was dominated by new neoliberal orthodoxy already in the 1980s to become just a little more progressive offshoot of the all encompassing neoliberal paradigm.

SD has been dominated by the new neoliberal system as it was not able to prevent a number of economic, social and environmental crises. The global financial crisis and consecutive Great Recession (a clear reference to the Great Depression of the 1930s) proved that neoliberalism, which led to financialisation and monopoly capitalism, was dangerous not only to people living in developing and least developed countries but also to the majority of those in developed countries. This proves that the SD concept (especially its economic pillar or dimension) was inept in sustaining development and standard of living after 2008.

Both neoliberalism and SD gained popularity in the 1970s. Baldwin et al. (2019) claim that “the desire to “free up” the market to drive economic growth has been pursued in tandem with the aim of sustainable development” (United Nations, 2002; Fisher, 2006; Wagner, 2006; Bakker, 2010). But one cannot deny that neoliberalism won the battle of ideas and, for over four decades, has been the dominant paradigm which structures the functioning of individuals and societies in capitalist countries. Numerous financial and economic crises both in developing and developed countries did not undermine this dominance. Even the global financial crisis and subsequent Great Recession in 2009 did not lead to the paradigm shift. The sustainable development concept has been too weak to avert financial, economic, social and environmental crises.

According to Newig et al. (2019), “current literature on sustainability governance and institutions is preoccupied with innovation, novelty, success and “best practice”, but there is an emergent tendency to consider decline and failure as opportunities and leverage points to work towards and to achieve sustainability. Although failure, crisis and decay have been treated extensively, the link towards their productive potential has remained underdeveloped in the literature” (Newig et al., 2019).

The concept of sustainable development is present in the popular debate, yet the discussions often concentrate on merely one aspect of environmental order, namely climate change resulting from greenhouse gas emissions. Other environmental problems are rarely addressed. The same applies to issues belonging to the economic and social pillars of SD. As the voice of the dissenters was intelligently reduced to activists focusing solely on averting climate change, one cannot expect a decisive break from current economic

orthodoxy. Generally, for decades the actual implementation of the SD concept has been highly selective and mainly focused on the conservation of the environment and, at the same time, maintaining economic growth. This can be illustrated by the growing popularity of the terms “green growth”, “greening the economy” and as in the case of (Köhn, 2012) “greening the financial sector”. The social pillar of SD is not fashionable. The widespread popularity of micro analysis operating within the current economic architecture suits the interests of multinational corporations. Macroeconomic analysis is significantly reduced.

GDP per capita and GDP dynamics were and still are the most important indicators in the economic pillar of SD. For example, Agenda 2030, in its first target of goal 8, aims to “sustain per capita economic growth in accordance with national circumstances and, in particular, at least 7 per cent gross domestic product growth per annum in the least developed countries”. Other key measures of economic order assessing 21st-century capitalism are either rarely discussed or simply omitted (even in the case of supposedly broad and progressive SDGs). Such a shallow analysis cannot properly assess the following issues: asset and commodity price bubbles, financialisation, monopolisation, labour market, intra- and intergenerational income and wealth inequality, indebtedness, economic sectors, demography, spatial cohesion, leisure, well-being, etc.

## The UN’s SDG indicators

The UN’s global indicator framework was adopted by the General Assembly on 6 July 2017 and is contained in the Resolution adopted by the General Assembly on Work of the Statistical Commission pertaining to the 2030 Agenda for Sustainable Development (United Nations, 2015). The annex to this resolutions entitled “Global indicator framework for the Sustainable Development Goals and targets of the 2030 Agenda for Sustainable Development” comprises 17 Sustainable Development Goals (SDGs) and a list of indicators to be refined annually and reviewed comprehensively by the Commission. At present, the official global indicator framework comprises 231 unique SDG indicators. However, the total number of listed indicators is 247, as twelve indicators repeat under two or three different targets (United Nations, 2017). The global indicator framework was developed by the Inter-Agency and Expert Group on SDG Indicators (IAEG-SDGs) and later agreed upon by the Statistical Commission at its forty-eighth session, held from 7 to 10 March 2017, as a voluntary and country-led instrument.

Classification into social, ecological and economic pillars or orders allows a clear assessment of the SD concept by the experts in particular fields. When

the classification was erased from the classic definition of SD in Brundtland Report in 1987, officially referred to as “Our Common Future, Report of the World Commission on Environment and Development”, the concept has become blurred. The same caveat applies to recent implementations of the concept in Millennium Development Goals (MDGs) and Sustainable Development Goals (SDGs). Some authors attempted to divide SDGs into four aspects (or spheres/pillars): economy (goals 8, 9, 10, and 12), society (goals 1, 3, 4, 5, 11, and 16), environment (goals 2, 6, 7, 13, 14, and 15), and governance (goal 17) (Lu et al., 2015). But the goals are not clearly grouped into pillars. This is one of the reasons why SD is still referred to as a ‘contested concept’ (i.e. that can be defined in more ways than one). It could well be argued that this post-modernist amalgamation has nothing to do with the heterodox noble postulates calling for broadening both the popular debate and academic analysis (as in the case of interdisciplinary studies and research). “Neoliberal articulation of sustainability with the broader field of contesting perspectives combined with a strategy of ‘passive revolution’, that are together summed up as the Rio process, has led earlier radical discourses being incorporated and subordinated to neoliberal hegemony” (Tulloch & Neilson, 2014). Weakening of sustainable development paradigm (especially its economic pillar) allows orthodoxy to replace it by the concept of ‘green growth’, ‘greening the economy’ and even ‘greening the financial sector’. The focus on growth (measured by GDP) instead of development (especially sustainable development) is a central feature of neoliberalism. Hence, the edifice of the current orthodoxy remains intact. Naturally, sustainable development is not the only example of contested concepts. Söderbaum (2019) also adds ‘democracy’ and ‘institution’ to the list of terms whose definition is debatable and, therefore, vague. “Neoclassical economists tend to limit attention to concepts that can be quantified and therefore avoid or reduce the role of contested concepts” (Söderbaum, 2019).

At the same time, neoliberalism attempts to shape (and, if necessary, adjust) the definition of a “contested concept” so that it does not pose much threat to the orthodoxy. It could well be argued that this applies to the concept of “sustainable development” in economic and social pillars of Agenda 2030.

“Transforming Our World: the 2030 Agenda for Sustainable Development” (often referred to as Agenda 2030 or Sustainable Development Goals – SDGs) is the current United Nations (2015) sustainable development strategy which covers 15 years (2016-2030). It was adopted by 193 countries in the UN General Assembly on September 25, 2015. Agenda 2030 replaced the UN Millennium Development Goals (MDGs), which were set by the 189 UN member states following the Millennium Summit in New York, 6-8 September 2000 and Millennium Declaration (A/RES/55/2) and prior to

the World Summit on Sustainable Development in Johannesburg (26 Aug.-4 Sept. 2002). Hence, the eight (rather narrow) Millennium Development Goals:

- to eliminate extreme poverty and hunger,
- to achieve global primary education,
- to empower women and promote gender equality,
- to reduce child mortality,
- to promote maternal health,
- to fight malaria, HIV/AIDS, and other diseases,
- to promote environmental sustainability,
- to develop a universal partnership for development, were superseded by the Agenda 2030 with the 17 Sustainable Goals (SDGs):
  - Goal 1. End poverty in all its forms everywhere,
  - Goal 2. End hunger, achieve food security and improved nutrition and promote sustainable agriculture,
  - Goal 3. Ensure healthy lives and promote well-being for all at all ages,
  - Goal 4. Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all,
  - Goal 5. Achieve gender equality and empower all women and girls,
  - Goal 6. Ensure availability and sustainable management of water and sanitation for all,
  - Goal 7. Ensure access to affordable, reliable, sustainable and modern energy for all,
  - Goal 8. Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all,
  - Goal 9. Build resilient infrastructure, promote inclusive and sustainable industrialisation and foster innovation,
  - Goal 10. Reduce inequality within and among countries,
  - Goal 11. Make cities and human settlements inclusive, safe, resilient and sustainable,
  - Goal 12. Ensure sustainable consumption and production patterns,
  - Goal 13. Take urgent action to combat climate change and its impacts,
  - Goal 14. Conserve and sustainably use the oceans, seas and marine resources for sustainable development,
  - Goal 15. Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss,
  - Goal 16. Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels,
  - Goal 17. Strengthen the means of implementation and revitalise the Global Partnership for Sustainable Development.



As the MDGs practically applied only to developing countries, the SDGs are global and extended the focus of international development beyond poverty to sustainability (Adelman, 2017). Realization of previous UN sustainable development strategies (MDGs) proved challenging and met with mixed success, despite its limited scope.

One cannot deny that SD (especially Agenda 2030 with its 17 SDGs) is a much broader concept than neoliberal focus on high economic growth, deregulation, privatisation and low inflation. However, the global financial crisis of 2007-2008+ and the subsequent Great Recession of 2009+ substantially undermined both neoliberalism and the current understanding of SD as big, private companies (dubbed too-big-to-fail) were bailed out by governments and central banks. It is argued that even the current understanding of SD (i.e. the 17 SDGs promoted by the UN and the EU) can be undermined or even falsified. The SDGs concept simply lacks predictive power; hence, according to the positive economics of Milton Friedman, it can be falsified. It is argued that a heterodox perspective would strengthen the informative and predictive power of SD indicators in the context of globalisation, financialisation and monopolisation. It is also claimed that the present set of SD indicators practically does not address the sources of the global financial crisis of 2007-2008+ and its repercussion in the real sphere via Great Recession in the following years.

By using heterodox analysis (Post-Keynesian, institutional and evolutionary economics), it could be demonstrated that SDGs are properly structured in order to fit into neoliberal orthodoxy (not vice versa). This caveat also applies to the Millennium Development Goals (MDGs) that preceded the contemporary SDGs, as they “focused attention on the need to reduce absolute poverty” (Shafik, 2012). In contrast, heterodox scholars prefer relative measures of poverty and inequality. According to O’Grady (2016), the UN system has been under neoliberal assault for decades and is facing its own test of contemporary relevance. The characteristic of the 17 SDGs seems to confirm this statement.

## Food security

The term “food security” was first defined at the World Food Conference held in Rome in 1974(5-16 November) by the United Nations. The conference was, in part, an answer to the challenges posed by two formidable food crises in Bangladesh in 1972 and 1974. Already these tragic events pointed to the multidimensional aspect of food security. While the government in Bangladesh succeeded in averting a widely predicted famine in the first case, it failed to prevent an actual famine in the later case when such a cataclysmic

disaster was least anticipated (Dowlah, 2006). According to Dowlah (2006), “the 1974 famine was caused by successive onslaughts of natural disasters such as floods and droughts, and man-made disasters such as the government’s inability to import foods, the directing of subsidised food to the politically vocal urban population, an abrupt fall in food aid and political and administrative corruption that encouraged massive hoarding and the smuggling of food grain”.

Nevertheless, the first definition of “food security” employed a narrow perspective which mainly focused on the concept of food availability (Simon, 2017). Yet, according to Caiafa and Wrabel (2019), “food security” encompassed the availability of food as well as the ability to access food. The 1974 World Food Summit defined food security as: “availability at all times of adequate world food supplies of basic foodstuffs to sustain a steady expansion of food consumption and to offset fluctuations in production and prices” (United Nations, 1975). The concept was further expanded by FAO in 1983 to include securing access by vulnerable people to available supplies, implying that attention should be balanced between the demand and supply side of the food security equation: “ensuring that all people at all times have both physical and economic access to the basic food that they need” (FAO, 1983).

The definition was further adjusted by the World Bank in 1986. It introduced the distinction between chronic food insecurity (dealing with problems of continuing or structural poverty and low incomes) and transitory food insecurity (which involved periods of intensified pressure caused by natural disasters, economic collapse or conflict) “access of all people at all times to enough food for an active, healthy life” (World Bank, 1986).

Later adjustments of the term in 1996 made it more comprehensive in order to address persistent global undernutrition and growing fear concerning worldwide agricultural capacity (a clear reference to Malthusian thinking). According to the World Food Summit (1996) declaration “food security, at the individual, household, national, regional and global levels [is achieved] when all people, at all times, have physical and economic access to sufficient, safe and nutritious food to meet their dietary needs and food preferences for an active and healthy life” (FAO, 1996).

The next adjustment by FAO in 2002 introduced the social aspect of food security “Food security [is] a situation that exists when all people, at all times, have physical, social and economic access to sufficient, safe and nutritious food that meets their dietary needs and food preferences for an active and healthy life” (FAO, 2002).

The definition of “food security” further evolved building on the works of Indian economist and philosopher Amartya Sen, especially his influential text (Sen, 1981). Sen was analysing the entitlements of individuals and households rather than concentrating on the concept of food security. A new

approach drawing from his research focused on consumption, the demand side and the issues of access by vulnerable people to food.

For Sen, the poor lack many kinds or forms of freedom, which are perceived as obvious for the rich. A more recent confirmation of this finding is provided by Banerjee and Duflo (2012). "Development is something more than economic progress measured by the quantity of goods produced. (...) It is a social development: i.e. the increase of the number of people experiencing freedom springing from gaining the abilities indispensable to reach an adequate standard of living" (Kishtainy, 2017). Doubtless, the hierarchy of values favoured by Sen differs from the standard approach favoured by mainstream economists. Sometimes it could be easily recognised (Szydło, 2020a). For example, there is a clear contrast between "Development as freedom" – the title of Amartya Sen's book published in 1999 and the titles of two books by Balcerowicz (a leading Polish free market economist) in which freedom plays the most important role: "Freedom and development. Economics of free market" (Balcerowicz, 1995) and "Freedom, development, democracy" (Balcerowicz, 2017). The approach favoured by the Indian economist, however, concentrates on development (i.e. 'freedom to' as depicted by Berlin (1969)) rather than individualistic 'freedom from' (i.e. freedom from state coercion). Interestingly, according to Kowalik (2010), liberal Bochniarz and conservative Legutko expressed deep dissatisfaction when Sen was awarded the Nobel Memorial Prize in Economic Sciences in 1998.

Recent understanding of the term "food security" incorporates four main dimensions (features, pillars):

- Physical AVAILABILITY of food which addresses the "supply side" of food security and is determined by the level of food production, stock levels and net trade,
- Economic and physical ACCESS to food -an adequate supply of food at the national or international level does not in itself guarantee household-level food security. Concerns about insufficient food access have resulted in a greater policy focus on incomes, expenditure, markets and prices in achieving food security objectives,
- Food UTILIZATION – commonly understood as the way the body makes the most of various nutrients in the food. Sufficient energy and nutrient intake by individuals is the result of good care and feeding practices, food preparation, diversity of the diet and intra-household distribution of food. Combined with good biological utilisation of food consumed, this determines the nutritional status of individuals,
- STABILITY of the other three dimensions over time -even if your food intake is adequate today, you are still considered to be food insecure if you have inadequate access to food on a periodic basis, risking a deterioration of your nutritional status. Adverse weather conditions, political

instability, or economic factors (unemployment, rising food prices) may have an impact on your food security status (FAO, 2008). One approach to policies that encourage stability is to reduce the chances of shocks occurring in the first place. According to Caiafa and Wrabel (2019), “This can be achieved by adopting systems for monitoring and analysing food security risks to anticipate, and potentially attenuate, disruptions. Policies that support farmers’ ability to produce food and contribute to national food stocks without stress or uncertainty about their income or livelihood are additional mechanisms for achieving this”.

More specifically, stability could be safeguarded, for example, by building buffers so that consumers can maintain their access to and use of food when the inevitable happens, rapid deployment of social safety net programs, plans for reintegrating refugees and displaced people, maintaining ecosystem integrity, mitigating the infrastructural and social effects of hazardous weather events, strengthening peacebuilding efforts to minimise conflict (Caiafa & Wrabel, 2019).

The two additional dimensions of “AGENCY” and “SUSTAINABILITY” are proposed by the High Level Panel of Experts (HLPE) of the Committee on World Food Security (CFS) but are not formally agreed upon by FAO or other bodies, nor is there an agreed language on the definition (FAO, 2021). However, HLPE Report 14 and previous HLPR Reports recognised “agency” and “sustainability” as vital dimensions of food security that flow directly from the principle of the right to food. In a broader sense, “agency” is defined as “what a person is free to do and achieve in pursuit of whatever goals or values he or she regards as important” (Sen, 1981). According to Alsop and Heinsohn (2005), the agency goes beyond access to material resources in that it includes empowerment – the ability to take actions that help improve their own well-being, as well as their ability to engage in society in ways that influence the broader context, including their exercise of voice in shaping policies.

In a narrow sense, connected with safeguarding food security, “agency” implies the capacity of individuals or groups to make their own decisions about what foods they produce, how that food is produced, processed and distributed within food systems and their ability to engage in processes that shape food system policies and governance” (HLPE, 2020).

The concept of “agency” has similarities with the notion of positive liberty described in Isaiah Berlin’s seminal essay: “For the ‘positive’ sense of liberty comes to light if we try to answer the question, not ‘What am I free to do or be?’, but ‘By whom am I ruled?’ or ‘Who is to say what I am, and what I am not, to be or do?’” (Berlin, 1969). The ‘positive’ conception of liberty: freedom– to lead one prescribed form of life, is therefore contrasted with the ‘negative’ conception of liberty: the freedom which is involved in answer to

the question “What is the area within which the subject – a person or group of persons – is or should be left to do or be what he is able to do or be, without interference by other persons?” (Berlin, 1969).

Sustainability (the sixth overall dimension of food security, i.e. the second extra dimension) was initially defined as the sustainability of food systems in all three dimensions: economic, social and environmental, in their capacity to ensure good quality and adequate food for this generation and future generations (HLPE, 2014). After a minor refinement, it presently refers to “the long-term ability of food systems to provide food security and nutrition today in such a way that does not compromise the environmental, economic, and social bases that generate food security and nutrition for future generations” (HLPE, 2020).

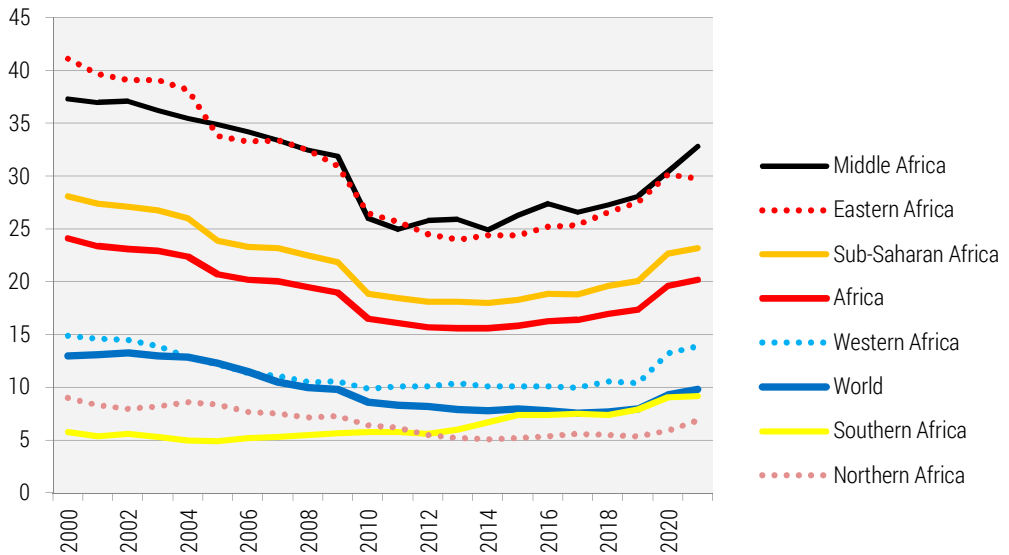
**Table 1.** Prevalence of undernourishment\* [%]

|                        |      |                        |      |                     |      |
|------------------------|------|------------------------|------|---------------------|------|
| Somalia                | 59.5 | Afghanistan            | 25.6 | Gabon               | 15.7 |
| Central African Rep.   | 48.2 | Unit. Rep. of Tanzania | 25.1 | Cabo Verde          | 15.4 |
| Haiti                  | 46.8 | Kenya                  | 24.8 | India               | 15.3 |
| Yemen                  | 45.4 | Papua New Guinea       | 24.6 | Côte d'Ivoire       | 14.9 |
| Madagascar             | 43.2 | Lesotho                | 23.5 | Nigeria             | 14.6 |
| North Korea            | 42.4 | Timor-Leste            | 22.6 | Burkina Faso        | 14.4 |
| Dem. Rep. of the Congo | 41.7 | Togo                   | 20.4 | Gambia              | 13.6 |
| Liberia                | 38.9 | Namibia                | 19.8 | Honduras            | 13.5 |
| Congo                  | 37.7 | Nicaragua              | 19.3 | Pakistan            | 12.9 |
| Iraq                   | 37.5 | Angola                 | 17.3 | Bolivia             | 12.6 |
| Rwanda                 | 35.2 | Malawi                 | 17.3 | Ecuador             | 12.4 |
| Chad                   | 31.7 | Guatemala              | 16.8 | Sudan               | 12.3 |
| Mozambique             | 31.2 | Solomon Islands        | 16.5 | Sao Tome & Principe | 11.9 |
| Botswana               | 29.3 | Djibouti               | 16.2 | Eswatini            | 11.6 |
| Venezuela              | 27.4 | Ethiopia               | 16.2 | Mali                | 10.4 |
| Sierra Leone           | 26.2 |                        |      |                     |      |

\* Figures for countries with the prevalence of undernourishment above 10% in 2019

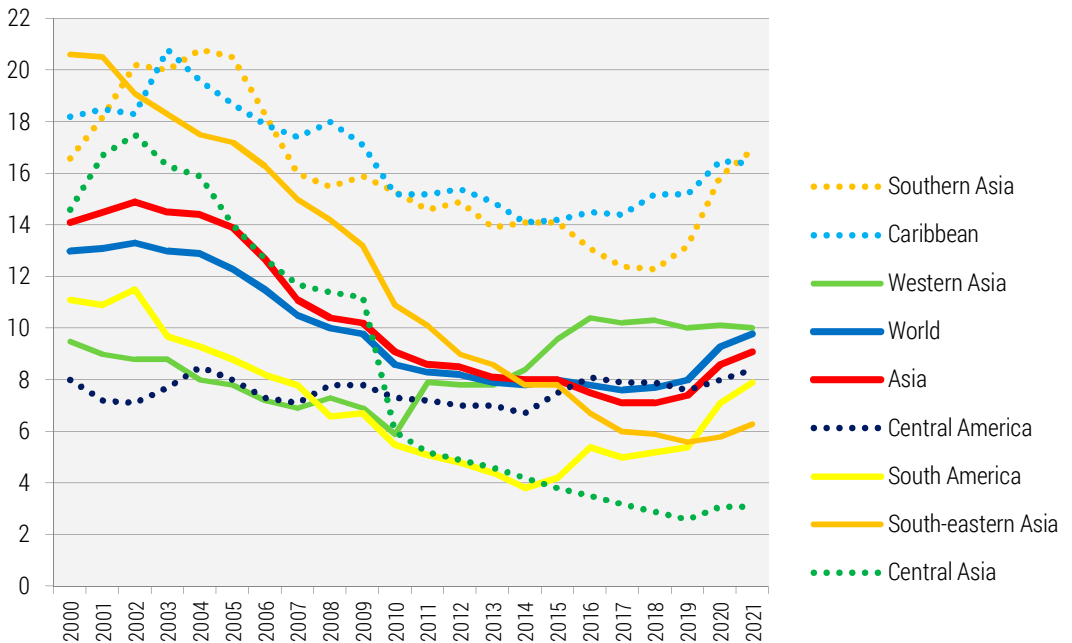
Source: author's work based on FAO (2021).

Despite long efforts to overcome hunger, in as many as 46 countries the prevalence of undernourishment exceeded 10% in 2019. Even in the years preceding the COVID-19 pandemic the undernourishment was on the rise since 2013-2015.



**Figure 1.** Prevalence of undernourishment [percent] (annual value) in Africa in 2000-2021

Source: author's work based on FAO (2021).



**Figure 2.** Prevalence of undernourishment [percent] (annual value) in Asia, Central and South America in 2000-2021

Source: author's work based on FAO (2021).

The figures for Africa (especially Middle, Eastern and Sub-Saharan Africa) are alarming. The positive tendency was reversed in all African regions, Asia and South America. Although, the prevalence of undernourishment in Asia (especially Central Asia and South-Eastern Asia) has diminished in the last two decades.

Unfortunately, more sophisticated and comprehensive food security strategies did not lead to lowering the prevalence of undernourishment in the recent 6-8 years.

Interestingly, the commodity price boom (including food, fertilisers and crude oil) in 2004-2008 and the global financial crisis did not immediately translate into higher levels of undernourishment. The question remains whether it springs from measurement problems. It well might be that these economies are relatively closed (possibly more self-sufficient) and, therefore, better insulated from external shocks.

Higher dynamics of fertiliser and oil prices in comparison with food prices (as in the case of recent two commodity price booms in 2004-2008 and 2021-2022) must lead to the extraction of income and wealth from the agricultural sector into oligopolies or monopolies producing fertilisers and oil. Agenda 2030 does not comprise indicators measuring price changes of these two vital types of commodities but narrowly concentrates only on food price anomalies in Goal 2. It is hardly surprising as economic orthodoxy has avoided addressing asset bubbles and recognising the existence of cost-push inflation.

Forty years of neoliberal fixation on GDP growth coupled with successive UNSD strategies (including MDGs and SDGs) proved unsuccessful in eradicating hunger and poverty. The number of undernourished stubbornly hovers well above 785.4 million (the level in 2015) and has been on the rise in recent years. The prevalence of severe food insecurity in the world population increased from 7.7% in 2014 to 11.7% in 2021, while the prevalence of moderate or severe food insecurity in the total population (percent) expanded from 21.2% to 29.3% in the same period.

## Sustainable technologies in agriculture and sustainable development paradigm

Undoubtedly, one has to agree with Singh et al. (2022) that “sustainable technology-led agriculture is the need of the hour to enhance and maintain the ecosystem not only for the present generation but also for future generations”. Particular challenges are faced by small farms in developing countries. Implementation of sustainable agricultural technologies (Singh et al., 2021) may prove too expensive to implement, as in the case of drones (Singh et al.,

2022). Naturally, it also applies to technologies connected with smart farming aiming to improve crop yield and product quality (such as GIS remote sensing, nanotechnology, and genome editing tools, including molecular biological techniques) (Singh et al., 2021). Development of these modern methods requires substantial funds, highly trained specialists and an adequate process of certification in line with the precautionary principle of the sustainable development paradigm. Given small spending on research and development (R&D) in the majority of countries, more advanced methods could only be developed in selected high-income countries (i.e. the USA, Canada and West European countries, such as Germany, the UK, France, Switzerland, etc.) and big developing countries such as China and India. Therefore, the majority of countries would have to import modern, often expensive technologies. Similarly, 'green' organic food may, unfortunately, prove too costly for most consumers in developing countries.

A number of smaller developing countries even do not have the capacity to produce fertilisers (N, P, K). Hence, in order to improve yield to safeguard food security, they have to rely on imports. During asset price bubbles between 2005 and 2008 (i.e. prior to the Global Financial Crisis) and during conflicts or war (as in the case of the Russian-Ukraine war), this strategy poses a serious risk. The international prices of strategic commodities such as oil (extensively utilised by agricultural machines, especially in developed and developing countries), gas (used in the process of fertiliser production), and NPK fertilisers increase even faster than food. Paradoxically, least developed countries (LDCs) are not severely affected by this type of crisis as they could not even afford to import fertilisers prior to asset bubbles (i.e. when the prices of fertilisers were relatively low). The vulnerability of fertiliser-importing countries with floating exchange rates is further reinforced by adverse currency movements (i.e. depreciation of the local currency against USD), which became a norm during financial and economic crises.

Therefore, the 21st-century crises prove that safeguarding food security cannot rest solely on the belief in the free-trade concept advocated by the WTO. Food security can only be maintained by the adequate implementation of broad sustainable development (SD) paradigm comprising at least five pillars or orders (i.e. economic, social, environmental, institutional and spatial). Global Financial Crisis and subsequent Great Recession also show that the inclusion of financial order as the sixth pillar of SD is indispensable. Limiting the understanding of the sustainable development paradigm to the environmental order (pillar) as in the Constitution of the Republic of Poland of 1997 would not effectively address various challenges faced by humankind in the 21<sup>st</sup> century (Szydło, 2020b). To illustrate the point, article 5 of the Constitution states: "(t)he Republic of Poland shall (...) ensure the freedoms and rights of persons and citizens, the security of the citizens, safeguard the national



heritage and shall ensure the protection of the natural environment pursuant to the principles of sustainable development". A similar approach employs by Singh et al. (2022), who define SD as "a set of principles that guide us to effective utilisation of natural resources without undermining their integrity and stability for future generations". It could well be argued that there is a need to return to the original definition of SD, which was presented in World Conservation Strategy (IUCN, 1980). Only broad cooperation of scholars from various scientific fields (i.e. agronomy, biology, chemistry, ecology, economics, geography, meteorology, physics, etc.) could safeguard a better future for present and future generations.

At the same time, certain ecological ideas blaming agriculture for massive CO<sub>2</sub> emissions because of the huge livestock population (Warner, 2021) should be treated with caution.

**Table 2.** Agricultural methane emissions (metric tons of CO<sub>2</sub> equivalent per capita) as a share of total (anthropogenic) CO<sub>2</sub> emissions\* [%]

| Country Name              | 1990  | 2005  | 2019  |
|---------------------------|-------|-------|-------|
| Least developer countries | 84.86 | 77.12 | 63.67 |
| Brazil                    | 55.03 | 49.75 | 43.54 |
| Sub-SaharanAfrica         | 44.78 | 41.61 | 40.69 |
| Argentina                 | 45.77 | 37.91 | 33.58 |
| India                     | 43.50 | 29.26 | 16.92 |
| World                     | 12.95 | 10.36 | 8.95  |
| European Union            | 7.77  | 6.11  | 7.22  |
| Ukraine                   | 8.02  | 5.80  | 5.47  |
| United States             | 3.91  | 3.35  | 4.03  |
| Russian Federation        | 6.47  | 3.51  | 2.90  |
| China                     | 13.42 | 5.77  | 2.90  |

\*Proxy: the sum of CO<sub>2</sub> emissions\*\* (metric tons per capita) and agricultural methane emissions (metric tons of CO<sub>2</sub> equivalent per capita); \*\*Carbon dioxide emissions are those stemming from the burning of fossil fuels and the manufacture of cement. They include carbon dioxide produced during the consumption of solid, liquid, and gas fuels and gas flaring.

Source: author's work based on World Bank (2022).

The data above clearly show that the share of agricultural methane emissions in the proxy of total anthropogenic CO<sub>2</sub> emissions fell from 12.95% in 1990 to 8.95% in 2019.

## Summary

Undoubtedly, Agenda 2030, with its 17 SDGs is a more comprehensive United Nations SD strategy than MDGs. The current SD strategy, however, does not adequately address systemic issues (such as power relations and financialisation). Its microeconomic, bottom-up approach in the social sphere and focus on GDP growth as the main macroeconomic goal make it a little more progressive offshoot of economic orthodoxy. It is more than clear that two ambitious aims of Agenda 2030, namely to end hunger and ensure access by all people to safe, nutritious and sufficient food all year round by 2030 (goal 2) and eradicate extreme poverty for all people everywhere by 2030 (goal 1) cannot be achieved without global moral revolution and the creation of a new version of human-oriented capitalism (for example drawing from personalist worldview). More emphasis must be placed on decreasing inequality (both within a country and between countries). New relative measures of inequality (especially those advocated by Piketty (De Haan, 2016)) should be included in the Agenda 2030 and more widely popularised.

Agenda 2030 does not adequately capture relatively brief events of asset price bubbles and commodity price. It is consistent with the long-run approach favoured by the mainstream. Indices describing price variations of agricultural inputs (i.e. fertilisers, crude oil) ought to be incorporated into the current UN SD strategy. There is a need to broaden the SD paradigm (including Agenda 2030) by the financial stability and sustainability dimension (pillar) with the aim to better address the process of financialisation. It is essential to anticipate and, if possible, reduce or even pre-empt commodity price shocks. Safeguarding food security requires both adequate regulation of international commodity markets (especially food and agricultural inputs) and a long-term emphasis on structural reforms of commodity sectors (e.g., keeping monopolies in check).

More heterodox Agenda 2030 will especially benefit those living in poor and developing countries by steering the global system towards more harmonious development.

The paper also shows that the burden of the adjustment towards green methods of production with low CO<sub>2</sub> emissions should primarily fall on sectors burning fossil fuels and the manufacture of cement rather than on agriculture. Yet, the orthodoxy has been ingeniously employing Malthus to explain both hunger and global warming.

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