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# International relations challenges and sustainable development in developing countries after 2022: conceptualization of the risk assessment model

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## Abstract

**Background** UN defined *Transforming our world: the 2030 Agenda for Sustainable Development* promotes international relations as a platform of cooperation between all stakeholders to achieve peace, stability, and prosperity but faces significant challenges in the post-2022 period. In light of the COVID-19 pandemic and the Ukraine crisis, the prospects for sustainable development as a component of international relations are one of the challenges. The main objective of this paper is the conceptualization of a model for sustainable development risk analysis, intended for developing countries with underdeveloped or nonexistent monitoring systems.

**Methods** Theory synthesis, adaption, and model development were used in the conceptual method due to empirical research limitations. Analysis, induction, and modeling were utilized to evaluate qualitative and quantitative sustainable development risk assessment approaches and anticipate their advantages and disadvantages.

**Results** The theoretical part of the research points to the need to consider the risks to implementing sustainable development (primarily future energy development and climate change) that arise from changes in international security. The novel result of the paper is the proposal of the concept *Model for sustainable development implementation risk assessment in developing countries*, derived from the following inputs: (a) an overview of the development of international relations and attitudes towards sustainable development; (b) a proposal of a generic model for risk assessment; (c) a prediction of the sustainable development future from the perspective of international relations and defined risks for its implementation. A set of indicators is proposed by dimensions: social, economic-political, and energy-environment.

**Conclusions** The future of sustainable development can be considered at a certain degree of risk in light of the global crisis after 2022. Changes in geopolitical constellations, armed conflicts, population growth, climate change, and the reallocation of financial resources are the factors that will largely determine the commitment of individual countries to implementing sustainable development. Therefore, sustainable development risk assessment must be revisited, improved, and closely monitored. The development of models based on the specificities of each country is highly recommended. Methodological notes are presented.

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**Keywords** International relations, Sustainable development, Conceptualization, Modelling, Risk assessment, Developing countries

## Background

Sustainable development is an approach to using resources in a way that ensures their continued existence over time, the significance of which will only increase with the fourth industrial revolution and the numerous challenges of the twenty-first century. [1] This approach is an organizing principle for striving towards human development while simultaneously preserving the ability of nature to provide the natural resources and ecosystem upon which the economy and society depend, with the aim of providing stable social progress, environmental balance, and economic growth. Since the beginning of the 1970s, sustainability has been a universally recognized commitment of international and national policies [2].

In that context, the analysis of risks for sustainable development has become a standard procedure in policy decision-making [3] with different approaches to the decision-making process itself. However, there is no doubt that the majority of the human population believes humanity should develop in a manner that optimizes the consumption of natural resources, reduces pollution, and enhances the quality of life for every individual [4].

The implementation of sustainable development is a long-term process that entails defining national policies, objectives, and priorities, as well as mechanisms for carrying out activities and evaluating their effectiveness [5]. In this respect, countries have different capabilities and results. Developed countries have real opportunities to achieve better results in implementing sustainable development. In contrast, developing countries, especially impoverished ones, face many obstacles and are generally oriented towards economic development, which is not necessarily based on sustainability principles [6].

With the outbreak of the COVID-19 pandemic, significant problems have arisen in all aspects of life and business [7] and the outbreak of the Ukrainian crisis has led to further and more complex changes at the global level. Numerous problems arise in energy supply, particularly Europe [8]. Supply chains have been disrupted [9], an issue with food supply to impoverished countries has arisen [10], there has been an increase in inflation [11], a new global security architecture has been created, and international relations have changed.

To date, the influence of international relations on a country's capacity to implement a sustainable development strategy has been substantial, and the challenges beyond 2022 lead to a need to heighten the focus on

the aforementioned matter, particularly from that perspective [12]. The implementation of specific sustainable development goals (especially regarding energy consumption and climate change) is increasingly conditioned by relations between individual countries, groups of countries, or alliances [13].

International relations encompass the comprehensive range of interactions and dependencies between politically delimited societies across various domains (politics, military affairs, economics, culture, intelligence, energy, and the environment). These relations are shaped by the interdependence of interests and objectives within the existing framework of international relations, as well as the forms and dynamics of global communication, the balance of power in the world, the behavioral patterns of states during a specific period, cultural and traditional influences, and the capacity to accurately assess the factors that impact foreign policy and strategic orientation within a particular constellation of international relations, thereby anticipating future developments [14]. The operational description provided above has a strong correlation with the concept of international relations laid out by Lawson [15].

Therefore, there is a clear need to make predictions about sustainable development through an insight into the reality of international relations, especially after significant changes on the international stage as of 2022 and the impossibility of clearly defining the new situation [16].

After 2022, international security must be viewed with special attention as a particular dimension of international relations that will increasingly determine the effectiveness of the implementation of sustainable development principles and models throughout the world, with the type, degree, and direction of action of specific security influences currently unknown and insufficiently known.

To see more clearly the risks to the implementation of sustainable development after 2022, which will be significantly affected by the new security architecture, it is necessary to understand international security and to develop an interdisciplinary approach [17] that will enable the interaction of the above two essentially different concepts, which are also characterized by certain similarities, primarily in terms of the basic setting, actors, organization, and decision-making processes. International security refers to the institutional framework and regulatory mechanisms that govern global interactions

between, primarily, state and non-state actors (with clearly defined roles, responsibilities, and obligations of the institutions involved). In addition, it includes a normative framework of their actions that outlines the objectives, general principles, norms, rules of conduct, and limitations on actions, including security regimes. The functioning of this system is influenced by the dynamics of international relations, contemporary geopolitical configurations, and the prevailing security risks, challenges, and threats, with the ultimate aim of achieving security and peace [18]. The concept of international security, similar to the exposed operational definition, is also provided by Baldwin [19].

It is important to consider that each system serves as a mechanism for governing relationships and as a means of consistently responding from one center to natural processes, particularly to crisis situations. Therefore, the international security system should be established as an institutionalized method of decision-making and problem-solving through consistent, legitimate strategies. The existence of the system is determined primarily by the existence of a decision-making center with the authority to make generally binding decisions at the international level on matters of significance, which unquestionably includes issues and challenges associated with sustainable development. However, the possibility of imposing an agenda in international relations in matters of international security is primarily determined by the actual nature of international relations and, in particular, by the degree of power (the ability to promote geopolitical goals with available resources at a given time) of key international actors in the system (particularly the bodies of the United Nations) [20], along with the response of less powerful states and international organizations. As a response to changes in the international environment, the positioning of individual countries on specific international issues, in this case the future of sustainable development, is presently and urgently needed. Unquestionably, the attitudes of individual countries will be heavily influenced by their desire to achieve geopolitical and other objectives as effectively as possible in accordance with the strategic concept while attempting to manifest and possibly increase their influence on the international stage. In this regard, the positioning of states with limited capacities, such as those in the Balkans, is contingent upon an assessment of future trends and the influence wielded by significant geopolitical actors engaged in establishing novel global relationships. In this context, amidst complex geopolitical changes, future sustainable development is of secondary importance [21].

Perceiving the conflict in Ukraine as a pivotal moment in international security—and a substantial shift in geopolitical constellations as its discernible outcome—researchers make predictions of the development of relations and processes in international politics, emphasizing the heightened polarization thereof. Specifically, they highlight military collaboration between the Russian Federation and the People's Republic of China, which significantly influences international relations, with the further open possibility of prolonging the war, thereby perpetuating tensions at the global level, and ultimately, the emergence of a nuclear conflict as a plausible risk [22].

The future of sustainable development is undeniably influenced by geopolitics, which necessitates the integration of perspectives of multiple scientific disciplines. Geopolitics examines political phenomena and processes in relation to the physical–geographical and socio-geographical characteristics of space, their combinations, and their impact on the political sphere. In addition, it analyzes the trends and dynamics of change in these correlations. The geopolitical perspective requires the assessment of physical and geographical determinants and the dynamics of socio-geographical factors. Furthermore, it encompasses goals and interests that are not only territorial but also economic and financial, ideological, military and security, as well as religious and civilizational ones [23]. The geopolitical perspective highlights the increasing importance of socio-geographical factors, primarily due to revolutionary changes in the field of technology [24], which will make the consideration of risks for the implementation of sustainable development even more complex and uncertain.

Geopolitics is understood as a synthetic, synthetic-analytical, and even eclectic approach that explores the interdependence of geographical determinants (geographical location, natural resources, physical–geographical and socio-geographical factors) and the political sphere from the point of view of states, alliances, and non-state actors [25]. In addition to the aforementioned, the geopolitical aspect determines the relationships between the factors above, the position of the state and its environment to undertake appropriate policies in the security sphere at all levels, and the overall progress of society. The geopolitical perspective explores the cause-and-effect relationships between geographical and political factors (actions, relationships, and processes); it analyzes and evaluates the space in light of geographical and strategic factors and competition in international relations [26].

The importance of the geopolitical perspective for understanding the processes launched in 2022 is very easy to demonstrate. The Ukrainian crisis has brought

into question the United Nations Security Council's ability to maintain peace and security, and the conflicting interests of its five permanent members prevent it from taking effective action. In a situation where permanent members are drawn into a conflict, the Ukrainian conflict clearly demonstrates the issue of the efficacy of key institutions tasked with international security [27].

The duration of the conflict in Ukraine demonstrates changes in the policies of the great powers and in the international order, with the creation of an international environment in which small and less influential states can choose or take a neutral position regarding the Ukrainian conflict to increase national resilience in conditions of confrontation and competition for global supremacy among major international players without giving priority to sustainable development. It can be concluded that the conflict in Ukraine leads to the establishment of a new security architecture [28] and an open struggle for natural resources [29], the repercussions of which will be seen in the coming decades and whose impact on sustainable development is currently unknown [30].

The crisis in Ukraine has cast doubt on the viability of carrying out numerous and varied activities. According to an analysis from 2022 that investigates the effect of geopolitical uncertainty on the volatility of renewable energy exchange-traded funds, it is stated that, in the event of a risk increase, crude oil users typically recognize clean energy as a possible replacement in a specific part, which should lead to a reduction in volatility. As the rising geopolitical risk encouraged investment in renewable energy sources, affecting their value, the research concludes that a higher geopolitical risk entails a lower risk for green assets [31]. It is demonstrated that the geopolitical risk factor should be accounted for in research, including its impact on the development of national economies and volatility dynamics in the energy sector, as well as the financial markets, particularly the oil market.

The research from 2023 examines the causal relationship between geopolitical risk and green finance and demonstrates temporal heterogeneity in the relationship, wherein geopolitical risk causes variations in the return and volatility of renewable energy. The findings suggest that green investment contributes to the advancement of sustainable development, particularly in situations of heightened risk [32].

The Green Deal and its objectives have undoubtedly been questioned. Specifically, the Green Deal has objectives that are globally acceptable. Nonetheless, practice demonstrates that the operationalization of some of its objectives is not always in the best interests of developing countries, which must use and engage all available capacities and energy resources to meet the needs of their

populations while rationally allocating funds in accordance with their capabilities, sustaining the existing level of production, and promoting industrial development [33]. The crisis in Ukraine has unquestionably cast doubt on the full implementation of the Green Agenda, primarily in terms of energy security and climate change [34], but in a difficult-to-define manner and scope.

The crisis in Ukraine has led to additional pressure on supply chains, which have been threatened since the COVID-19 pandemic. In the research, the results of which were published in 2023, in which a precise methodology of empirical data analysis was applied (using global supply chain pressure), the goal was to probe whether extreme climate and geopolitical risk threaten sustainable development in the dimension of the global supply chain as a very complex and vulnerable system and process in which negative impulses are reflected in multiple directions. It is demonstrated that climate extremes (droughts, floods, heat waves, and cold waves) can result in fatalities or food shortages and starvation, thereby reducing labor resources. In addition to causing severe maladies, it can directly impact supply chains by destroying or degrading production capacities and transport infrastructure. Geopolitical events pose a threat to global supply chains, because production and transportation infrastructure can be the targets of attacks. As evidenced by the Russian–Ukrainian conflict, these events can result in reciprocal sanctions restricting trade and investment. It is especially crucial when a geopolitical event involves oil-producing countries, as it can lead to a decrease in production, an increase in demand, and a subsequent price increase. It was concluded that, in relation to geopolitical risks, extreme climate causes more visible destructive effects on the global supply chain [35].

It is essential to point out that even before 2022, there were doubts about the possibility of achieving sustainable development goals [36]. The Ukrainian crisis has demonstrated unequivocally that, despite the global acceptance of the concept of sustainable development and the emphasis on integration and international cooperation, there are incompatible interests among various actors, the resolution of which would necessitate compromises and decisions that are crucial for the achievement of goals, and which must be taken into account in processes and concepts that seek to transform society towards sustainable development [37].

Given the preceding information, the primary objective of this study has been established. It relates to the need to develop a model for risk assessment for the implementation of sustainable development as an essential aspect of national decision-making related to sustainable development. It is necessary to facilitate rational decisions, increase systematicity and

timeliness, perceive limitations of available information, provide adaptability, inclusivity, dynamism, and constant learning in decision-making. If risk analysis concerns supranational concepts, it is vitally important for securing national interests to distinguish the authenticity, reality, and value content of goals and criteria.

## Methodology

This study was designed and conducted in the form of conceptual research, because objectively, there is no possibility of conducting an empirical study on the mentioned topic [38]. In the first part, the study provides a critical account of the elements that comprise the perception of sustainable development since its introduction on an international level, highlighting major aspects of sustainable development as a non-binding normative concept that provides indicators and parameters for defining numerous national politics.

The exposed role sustainable development may play within it will be analyzed from the perspectives of practical conceptual constraints, which may potentially affect objective risk analysis, and from the aspect of the terminological deviation from initially envisioned concept.

The study analyzes the role a supranational sustainable development network can have with respect to the possible limitations it may pose for national risk analysis. This analysis will take a two-pronged approach, first from the aspect of ensuring accountable governance and second from the aspect of implementing sustainable development while managing associated risk. This should provide indicators of the approach to risk analysis necessary for decision-making, as well as for national adaptation to the potential pitfalls of uncritical adoption of unvalidated supranational projections.

The research utilized content analysis of academic literature, reports from official organizations, and, most importantly, scientific and professional sources from international relations, sustainable development, security, and risk management studies. Source analysis provides the conceptual framework for the risk analysis model. The paper primarily uses a qualitative methodological approach, indirectly indicating the need for a mixed methodology.

In light of the lack of historical data that could be incorporated into data processing, a proposal is made for the concept *Model for sustainable development risk assessment in developing countries*, which may be universal but is certainly tailored to the particulars, threats, weaknesses, and constraints faced by developing countries.

## Results

The environment came on the international agenda in 1967, when the representative of Sweden in the UN General Assembly proposed holding a conference on the environment. The UN Economic and Social Council supported this proposal, emphasizing the need for increased action to limit and, where possible, eliminate the deterioration of the human environment [39], on the basis of which the General Assembly convened a conference on the human environment in 1972. Since the UN Secretariat did not have the scientific or administrative capacity to deal with the matter, the preparation was conducted among individuals. Maurice Strong's tactful chairmanship of the conference secretariat avoided a boycott of what was labelled a "green imperialism conference". The result, in terms of environmental administration, was the conclusion that work in the field of the environment requires a common vision and direction and that it is necessary to create a central coordination mechanism of the UN that would provide political and conceptual leadership, methods of avoiding or reducing global environmental risks, where agreement is required, as well as methods of avoiding or resolving conflicts on environmental issues [40].

In international relations, sustainable development aligns with the expectation of states to strive for a fair, equal, and inclusive society and joint work to promote global sustainable and inclusive economic growth, social development, and environmental protection [41]. Despite the professed aspiration for these anticipated values, there is still no consensus on related legal obligations. In that context, it is worth noting that there is no support for the United Nations Environment Program to be transformed from a subsidiary body into a contractually specialized organization with the mandate to bring these humane values to life in practice [42].

In that context, an important fundamental conceptual content of sustainable development can be derived from the structural aspects of two declarations proclaiming universally accepted goals.

The first is the resolve in the Millennium Declaration, "to develop partnerships with the private sector and with civil society organizations in pursuit of development and poverty eradication [43]. This, specifically, exceeds the extent of the substance of this non-binding instrument, since in some parts, it encroaches on issues of internal politics, the economy and the rights of states. The second is the statement in the current sustainable development agenda that "there are different approaches, visions, models and tools available to each country, in accordance with its national circumstances and priorities, to achieve sustainable development; and we reaffirm that planet Earth and its ecosystems are our common home, and that

“Mother Earth” is a common expression in a number of countries and regions. We reaffirm our strong commitment to the full implementation of this new Agenda. We recognize that we will not be able to achieve our ambitious Goals and targets without a revitalized and enhanced Global Partnership and comparably ambitious means of implementation. The revitalized Global Partnership will facilitate an intensive global engagement in support of implementation of all the Goals and targets, bringing together Governments, civil society, the private sector, the United Nations system and other actors and mobilizing all available resources [44].

In relation to this structural component, it should be noted that even though sustainable development goals are proclaimed in a non-binding instrument, ensuring their fulfillment should be the responsibility of states [45] that do not contest the legitimacy of the international community’s influence in that process.

Unlike the goals, the very concept of sustainable development remains a construct of reality. The expansion of its scope has resulted in a practical implication of integrated political, economic, technological, social, and cultural development aligned with the requirements of environmental protection and improvement, which necessitates structural change in opposition to immediate short-term interests [46]. The implementation of sustainable development policies has resulted in the mobilization of resources to face complex challenges on a global scale. To declare specific goals, such as eradicating poverty and disease or lowering CO<sub>2</sub> emissions, national governments collaborated with one another, the private sector and a vast array of international actors.

Within the framework of sustainable development, the concept of human security arises in international relations, mainly as critical but also as activist, and in some international documents as a directive for national policies. The concept of human security encompasses numerous domains and is, therefore, subject to conceptual disagreement as it relates to both security and human rights [47]. All conceptualizations of human security advance the values of neoliberal globalism, albeit in diverse ways. Initiatives for human security are centered on non-governmental organizations, which are governed according to the model of supranational subjectification of governance in terms of power transmission through individual activists (governmentality) [48]. Human security programs (related to matters of common concern to humanity, such as climate, food, fresh water, human rights, and participation) operate through the mechanisms of subjectification of governing and accountability, a concept that evaluates government responsibility from a global perspective [49]. Accountability entails forms of management that require individuals to make decisions

about their lifestyles, bodies, education, health, etc. [50], within the network, in which the state retains a privileged role but in which individuals and non-governmental organizations share a portion of the responsibility, while the state continues to look after security interests, which becomes a characteristic of the interconnected mechanisms of global neoliberal administration [51].

At the beginning of the 1990s, a position regarding the compatibility of globalization and the sustainability of economies was articulated. According to this global concept, liberalization through the expansion of the area of free trade, initiatives for trade liberalization within the General Agreement on Tariffs and Trade (GATT) and World Trade Organization (WTO), as well as complementary political reforms in developing countries under the auspices of the International Monetary Fund (IMF) and the World Bank (WB) is the engine of development. On the other hand, a 1996 analysis by the United Nations Development Programme (UNDP) using the Human Development Index revealed that “89 countries are economically worse off than 10 years ago, that developing countries, with over 80% of the world’s population, still create less than 20% of the world’s product, and that more than 1.3 billion people live on less than \$1 a day, while the assets of 358 wealthy individuals exceed the total annual income of 45% of the world’s population [52].

According to the cited analysis, there is no direct connection between globalization and development. An important aspect of the methods applied by the advocates of such a process of globalization is the application of statistical trend projections, which, despite being denied in practice on the issues of nuclear energy, oil prices, and debt restructuring, are explained as the current market outcome [53].

This semantics provides an opportunity to examine the history of sustainable development conceptualization. The term “sustainability” refers to the rate of replenishment or preservation of resources. The term “development” reflects the process of growth that is targeted but frequently narrowed to the growth of national GDP. Combining these two terms suggests an effort to achieve economic growth that does not cause the destruction of resources over time. Given this interpretation, sustainable development would represent a specific normative orientation. However, it turned out to be inapplicable at the national level, which is likely why the guidelines from the Rio Declaration of 1992 (entitled “The Future We Want”) did not attain legal status. On the other hand, “conserving development” has not been accorded a position within the economic dimension as environmentalists and neoliberal forces managed to find common ground in narrowing this concept to a synonym for climate change and loss of biological diversity [54].

An important aspect of sustainable development risk analysis is the understanding of sustainable development. Initially, as introduced in the Brundtland Report, it basically implied “meeting the needs of the present generation without compromising the ability of future generations to meet their own needs”. This issue has caused many controversies. Some theorists of international relations have since broadened their studies to include climate change, environmental degradation, and sustainable development, viewing them as threats and challenges to international peace and security.

At the UN Conference on Environment and Development (1992), measures for implementing sustainable development were discussed. The priority themes were a green economy in the context of sustainable development and poverty eradication, and the institutional framework for sustainable development. In this context, it is important to point out that one of the adopted principles in the outcome of this conference, Principle 1, proclaimed that “human beings are at the center of concerns for sustainable development”. The significance is that new analytical articulations have evolved from a perspective that brings together the economic, social, and environmental spheres of international relations (development perspective). [55].

## Discussion

### International relations and sustainable development

Critical for national sustainable development risk analysis are the effective management of structures based on goals within the scope of global concepts, as well as the continuous improvement of processes for increasing national competitiveness. International trade is one of the fundamental goals of the national economy strategies. International trade also expands global business models. Today, supply chains are global, and their functional success has provided economies with an important foundation. In that context, the sustainability of a product’s production method, its logistics, and consumption have become vital elements. In the era of information, transparent knowledge about how supply chains work, as well as their environmental and social impacts, hazards, and opportunities, is widely available, primarily to consumers. This process has a potentially important role as an element of brand value. In general, supply chains that can manage brands according to the goals determined through realistic and sustainable development criteria should have an advantage. The measurement and management of sustainability at all rings of the chain are crucial. The difficulty in determining the objective sustainability performance of supply chains is a challenge for risk assessment. Gathering and sharing data about sustainable development, standardization of the measurements, evaluation

of quantitative data, transnational information systems, and cooperation between members of the supply chain and stakeholders are among the fundamental challenges that quantitative approaches must address. Assessment of sustainability is of critical importance to national industries and customers. Sustainability goals and commitments exist at various levels—government, company, and individual—for each industrial sector. It is necessary to measure the level of sustainability impact of all these actors within the supply chains, and therefore, it is necessary to develop reliable tools and indices of sustainable development impact [56].

The prevailing global discourse posits that there is a projected rise in surface temperature, leading to the anticipated degradation of permafrost and coastlines on Earth. This is expected to manifest in heightened occurrences of wildfires, decreased crop yields in lower latitudes, food stability, water scarcity and availability (primarily in drylands), and vegetation loss. In addition, there is a potential for limited access to food and nutrition, as well as increased soil erosion. Certain processes may even experience irreversible repercussions at lower levels of warming compared to other processes. In line with such projections of risks, possible changes could generate threats to food systems, human and ecosystem health, livelihoods, the viability of infrastructure, and the value of land. As the cause of the experience and dynamics of risk change over time, the top-down approach has identified natural but also human processes.

Furthermore, as those most affected by presumed climate and land changes, sustainable development policies and global policies highlight the very young, the elderly, and those living in poverty. The risks depend on the available responses. In this context, there is a presumption, from which the policy criteria should be deduced, that the holistic implementation of policies aimed at eradicating poverty, land degradation, and greenhouse gas emissions can achieve climate resiliency, thereby facilitating sustainable development. This leads to the assumption that policy instrument decisions and their implementation are detrimental to climate and land sustainability in the future. These sustainability pathways, as can be seen in approaches of many national policies in predominantly developed countries, are supported by imposing innovative regulation of land use to reduce environmental trade-offs, minimize the reliance on traditional biomass, reduce consumption growth, limit meat consumption, moderate international trade with connected regional markets, and introduce instruments mitigating greenhouse gas emissions. On one hand, the global sustainable development network argues that these instruments are effective in lowering food prices, reducing the number of areas and people affected by floods and extreme climatic

disruptions, and increasing forested land. On the other hand, policy pathways with limited regulation of land use, low technology development, resource-intensive consumption, restricted trade, and unregulated carbon emissions result in additional problems, especially in developing countries.

In international relations theory, some scholars of globalism attempt to outline sustainable development. In this context, they broaden its scope by prioritizing the related phenomena of transnationalization of global affairs, the advantages of cooperation, the growing complexity and interdependence among stakeholders, and inducing the links and effects on maintaining peace and security as the primary concern. What differentiates the globalist paradigm is the incorporation of a much broader range of stakeholders and subjects in its analysis of international society [57].

Transnationalism interprets international relations in more complex terms, taking into account not only peace or war but also in matters that are related to economic and social welfare. Furthermore, globalist doctrine places transnationalism within a context of progressive interdependence. As a result, specific issues pertaining to development and economic, social, and environmental stability are introduced as primary research topics. Bearing in mind the role of individual activism and rhetorical striving for equity, the structuralist (neo-Marxist) paradigm offers another doctrinal approach to sustainable development in international relations. Structuralist scholars stress the cause-and-effect relationship between the gradual degradation of the environment and the growth and economic development models in industrially developed countries, which was apparent after the end of the international colonial regime. They attempt to bring to attention the consequences of the dominant economic model on the sustainability of development [58].

Today, the majority of countries in the international community jointly introduce additional policies to address climate change and the achievement of development, growth, and sustainability through the implementation of the 2030 Agenda. In this regard, it may be noted that the content of the concept of sustainable development has been consolidated through various multilateral initiatives within the framework of the United Nations [59].

Constructivism draws attention to social structures and norms and elaborates on the significance of researching international institutions and regimes and the analysis of regionalism as topics that can play a significant, constitutive role in shaping identities. Critical theory proposes that all knowledge must be contingent, historical, and fully integrated into social and economic life, so that supposedly objective reality can only be understood through

social relations. This theory focuses on their potential role in shaping social processes and seeks to modify them. The reflectivity approach to international relations is linked to feminism as an aspect that pursues gender equality to put an end to the unequal status of women. The inclusion of gender issues in the international agenda is a significant accomplishment of these theories. Today, gender equality is promoted by the international community within the sustainable development goals of the 2030 Agenda [60].

This instrument proposes policies and instruments aimed at eradicating some of the most evident causes of vulnerability, disempowerment, and inequality among women in international society. Post-positivist approaches are founded on a philosophical basis that aims for a new theory of sustainable development in international relations theory. Post-positivist scholars include in their consideration intersubjective beliefs and values as participatory inputs with the potential to influence social change on national and international levels [61].

The concept of sustainable development has demonstrated the potential to gather and, in some respects, unite countries around the world in conjunction with numerous influential stakeholders and individuals to generate political, economic, social, and cultural change on a global scale. As it was proclaimed, “never before have world leaders pledged common action and endeavor across such a broad and universal policy agenda. We are setting out together on the path towards sustainable development...” [62]. Within that “path”, international politics and relations have been influenced by articulations of “deep concern” about the trends and effects on the stability of global society of certain issues, which are not only characteristic of the age but have existed throughout human history.

In that context, it would be possible to differentiate between threats such as poverty, inequality, and violence that generate human rights violations and armed conflicts, on the one hand, and more current threats in nature that have acquired relevance on the international or global agenda, such as environmental degradation and the possible effects of climate change, on the other hand.

#### **International relations within transforming our world: the 2030 Agenda for Sustainable Development**

One of the first global actions to face these threats was the adoption of the Millennium Development Goals within the framework of the UN as targets focused on sustainability values, such as strengthening democracy and equality, among others, time-bound for the year 2015. By the expiration of the set deadline, political leaders agreed on the need to redesign a new approach and



adopted *Transforming our world: the 2030 Agenda for Sustainable Development* (Agenda 2030). This instrument established a global framework to achieve transformation for sustainable development, ending poverty, protecting the planet, and ensuring prosperity for all people. From the aspect of international relations, a global commitment was made to eradicate situations and phenomena identified as the principal threats to global order of well-being, equity, and security, as they impede a socially sustainable world.

The formulation of Agenda 2030 is carried out in the form of a non-binding act, i.e., a soft law, defining a political perspective. From a normative stance, sustainable development is a principle with political consequences, and its achievement is accepted as vital for international order and security. Along with Agenda 2030 as its implementation program, it relates to two aspects of international relations studies: the subject of study concerning preservation of peace and stability, and the multilateral nature of cooperation between traditional subjects and new actors in this field. The fact that Agenda 2030 was universally accepted within the framework of the United Nations leads to possible theoretical presumptions: first, that its narrative explains the present international reality and, second, that it includes elements for establishing causalities for global peace and security.

On the other hand, the focus may be on the aspects of duties and obligations related to fulfilling the sustainable development goals, including the agenda of a network aimed at advancing global cooperation and solidarity and the configuration of a global order based on the respect of proclaimed international normative order (political and legal). Agenda 2030 implies that the implementation of a sustainable development agenda should not be a mechanical process of complying with narratives and participating in general mechanisms. Furthermore, the adoption of national policies and decisions should result from a rational process founded on the analysis of sustainability risks specific to the country and not on initiatives motivated by transnational financing mechanisms, often promoted by non-public actors and stakeholders.

Doctrinally viewed, Agenda 2030, as such, or a program for implementing sustainable development is substantially put in place to navigate the international community towards environmentally and socially rational economic systems. With that in mind, Agenda 2030 broadens the roles in achieving the goals with the participation of various non-state actors, formulated as “partnerships for the goals”. In Goal 17, Agenda 2030 proclaims that “a successful development agenda requires inclusive partnerships—at global, regional, national, and local levels—built upon principles and values and upon a shared vision and shared goals placing people and the

planet at the center”. In the transnational and neoliberal approaches, the set goals are to be aimed at through the multilateral cooperation of multiple actors institutionalized horizontally and vertically. In that context, besides the stakeholders, an important role is implied for international organizations, primarily those founded to deal with matters relevant for peace and security, which directly impact sustainability, in the context of social stability.

Therefore, the starting point for sustainable development in international relations is multilateralism and transnational cooperation among the different actors. Furthermore, the institutionalization of partnerships and cooperation in achieving sustainable development goals contributes to the coordinated management of international society because of a network system based on the implementation of public and private policies and international legal and political norms. Many scholars of international relations address the problem of configuring a doctrinal framework for sustainable development, which contributes to the narrative platform about the progress towards sustainability and further influences more proactive and binding measures to achieve sustainable development goals.

Within the transnational sustainable development network, the integrated national financing framework facilitates strengthening national planning processes and overcoming obstacles to financing sustainable development and sustainable development goals at the national level. Its function within that network is adequately described through this quote: “Cohesive, nationally owned sustainable development strategies, supported by integrated national financing frameworks, will be at the heart of our efforts” [63].

The national transition towards sustainability entails societal and economic challenges. Such are, for example, questions related to the effects of stricter social and environmental legislation, changing customer demands, national and global litigation, the ability to attract employees and investors, the availability and costs of resources, waste, and emissions risks.

Risk analysis is universally acknowledged as necessary for identifying and managing hazards and opportunities... Approaches for sustainability risk management face constraints in terms of the fact that necessary detailed information is not usually readily available in that phase; their focus is by default on environmental sustainability and not on a complete socio-ecological perspective, as well as on the connection between sustainability and costs and not on a broader value perspective and stakeholders. The narrow orientation disregards a strategic perspective. Sustainability risks were initially defined as risks due to environmental or social justice issues and the various ways businesses can be affected.

This includes, for example, legislative issues, such as taxes on emissions and regulation of manufacturing processes, reputational issues, such as boycotts and negative media attention, and litigation issues, such as fines and lawsuits.

### **Risk assessment**

Failure Modes and Effects Analysis (FMEA) was devised in 1949 by the United States Department of Defense as the first systematic, proactive procedure for evaluating risk. It is a risk-based tool used to identify, evaluate, and manage potential product or system failures in a structured manner. Multiplying parameters results in a numerical indicator of risk priority, which signals the relevance of a failure mode, guiding the focus of the design team and actions in relation to indicators. Since its introduction, FMEA has received considerable attention, and many ad hoc extensions have been developed. Updating FMEA enabled the analysis team to achieve a model design with known, mitigated, and evaluated failure modes according to importance. Most FMEA-related work is criticized for its confined and specific problems, because it is unable to address broader issues.

Application of an instrumental stakeholder perspective led to the proposal of the sustainability risk concept as not just mismatches between demand and supply but rather as “a condition or a potentially occurring event that may provoke harmful stakeholder reactions”, arguing that two factors are critical for such reaction: first, stakeholders must notice the sustainability issue, and second, they have to perceive the situation as unacceptable and consider themselves responsible [64].

This understanding of sustainability risks (related to the environmental dimension) further led to generating clarification questions based on the idea that missing information in a context can be identified by making a difference between the global and the local view and adapting the model to make it more useful (in information age) across domains, stronger in the direction of information availability, and responsive to the dynamic change in global knowledge [65].

From the perspective of decision-making, sustainable development risk analysis should allow for a strategic approach to conceptualize risk management and mitigate sustainability risks. Today, the evaluation of sustainability risks has grown dependent on applying quantitative approaches and attempting to achieve valid risk-oriented dynamic modeling with insufficient involvement of qualitative approaches. One of the latest advances in approach to risk management, which should impact risk analysis, is based on defining sustainability risks as “risks that are due to an organization’s contribution or counteraction to society’s transition towards strategic sustainable development”. This broadens the focus of analysis, since

it proposes that, when it comes to sustainability, risks are directly dependent on the actions and should be managed in relation to effects on internal and external stakeholder value creation, including but not limited to cost [66].

Activism is one of the representative characteristics of a management network that substantially affects the implementation of sustainable development policies. This is relevant not only in the context of individual security but also in for its implications for the spatial organization of human activity in global social system.

Today, as numerous studies have noted, financialization is linked to overaccumulation and non-reinvestment of profits in productive processes. In fact, neoliberal financialization has led to an economic transformation of advanced economies based on the expanded role of finance relative to other fields of endeavor. Global economic governance can be understood as an attempt to impose regulatory structures on capital flows, yet capital will quickly and perhaps inevitably overcome all political attempts at regulation to exploit unequal terms of trade and achieve above-average returns [67].

The evolution of the global economy and global trade exposed weakness in the real sector and vulnerabilities in international financial markets, especially notable during the COVID-19 pandemic. These were caused partly by low interest rates in the developed countries, which have not translated into growth; rather, their effects have been felt primarily in the financial sphere, which reflects the decoupling of the financial sector from the real sector in the economies, and has also results in lower income for institutional investors and the non-financial banking sector, giving rise to a business model that prioritizes short-run asset value and shareholders’ interests [68]. There are evident disparities in socioeconomic outcomes and exposure to environmental risks [69].

Sustainable development risk analysis is compelled to find ways to adapt to many challenges without questioning two fundamentals: global management networks (transnationalism) and the imposition of action through centralized financial control. In this context, it becomes a tool for increasing decision-makers’ awareness of sustainability risks and providing them with a practical method for identifying, assessing, and addressing these risks by applying narrower, instrumental stakeholder perspective [70].

In light of the foregoing, the development of new approaches to assessing the risk of sustainable development is crucial and must be based first and foremost on the specifics and requirements of each country.

### **Modelling of sustainable development risk assessment**

Risk analysis for the implementation of sustainable development at the national level requires the

development of an adapted model based on the theory of risk analysis, examples of best practices, and the application of risk indicators developed specifically for a particular country. The incorporation of sustainable development risk indicators into the decision-making process and the adoption of specific policies are shown in Fig. 1.

Sustainable development implementation risk indicators can be derived from existing ones, but they certainly need to be adapted to the specifics of the country for which the risk analysis is being carried out, in this case, developing countries. The mentioned countries face numerous problems when it comes to economic development and the well-being of citizens. They embrace sustainable development as a concept for the future, but their inclination to act in that direction is different and varies over time. Namely, in periods of stable development, developing countries, in most cases, strive to carry out activities aimed at economic strengthening as a basis for developing the social superstructure. In contrast, full respect for the principles of sustainable development is neither practicable nor feasible, because it requires complex changes that these countries are not ready for due to numerous factors of a different nature. Similarly, in periods of crisis, developing countries are focused on mitigating the impact on iconically sensitive systems to reduce turbulence and prevent potential social unrest and crises that easily escalate in times of crisis.

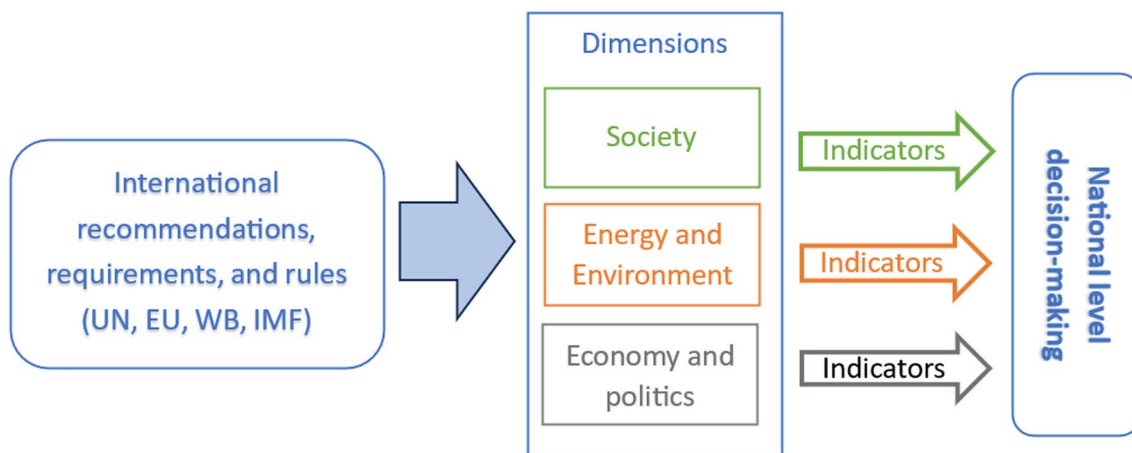
Due to all of the above, when defining a set of socially related risk indicators for implementing sustainable development, one should bear in mind the specified specificities and the state of development of the observed country. Citizens are important bearers of the sustainable development policy that is defined at

the national level, so their knowledge and readiness for action should be monitored and measured through the following indicators:

- Recognition and acceptance of the implementation of activities on the implementation of sustainable development among citizens;
- Degree of priority of sustainable development goals in the minds of citizens;
- The willingness of citizens to change their routines in life and business;
- Integration of sustainable development into the teaching content for students of all levels of education;
- Involvement of citizens in the process of adopting policies and making decisions; and
- The influence of the media.

Developing countries can be considered specific, because sustainable development has not taken root as an umbrella concept. However, individual activities carried out are those that the country can conduct in accordance with its financial capacity in the first place. Similarly, in periods of crisis, financial resources are allocated to meet requirements that become a priority for the state and citizens, which may differ substantially from sustainable development goals.

Economic and political risk indicators of sustainable development implementation are arguably the most important for developing countries. Due to the confluence of historical circumstances, developing countries in the twenty-first century strive to develop their economies in such a way as to ensure the basic functioning of society, but they have no real opportunities to plan and implement their economies according to the principles



**Fig. 1** Model of inclusion of sustainable development implementation risk indicators in national decision-making

of sustainable development. Specifically, in a significant number of cases, developing countries have plans that adhere to sustainable development. However, their full implementation is often at risk due to a large number of factors. One must not ignore the fact that developing countries often have less developed institutions and transparency, are subject to the manifestation of the phenomenon of the curse of natural resources, and do not have the mechanisms and strength to participate equally with powerful multinational companies, agencies, and bodies in making decisions that concern themselves and are subject to the action of numerous and diverse geopolitical influences.

In all countries, economy and politics are closely connected, but in the case of developing countries, the connection is even stronger, more complex, and more vulnerable, and they must inevitably be viewed together through the proposed list of risk indicators:

- Resilience of the economic system;
- Dependence on imports;
- Stable market;
- Resilience of the financial system;
- Degree of development and independence of state institutions;
- Transparency of all decision-making processes;
- Perception of corruption; and
- Vulnerability to the influence of rent-seeking companies.

Developing countries show higher instability and diminished resilience to worldwide turbulence and crises. Therefore, the specified set of indicators must be monitored separately and in detail. On the other hand, it is important to remember that the aforementioned indicators are essentially qualitative and, as such, cannot be measured using conventional methods. As a result, the measurement is subject to errors due to potential data manipulation for unrelated purposes.

Risk indicators for the implementation of sustainable development are particularly pronounced when it comes to the energy-environmental nexus. Specifically, using fossil fuels is the most important cause of climate change and pollution, hence special consideration should be paid to the aforementioned. It can be considered that all countries have recognized the problem of this kind of pollution and expressed their willingness to advance by implementing the sustainable energy development policy. However, the aforementioned is often limited or almost impossible due to the lack of financial resources, problems arising from borrowing from international institutions, and price increases brought on by investments in sustainable energy, which is detrimental

for both the country's citizens and exports. In periods of crisis, these problems are even more pronounced, especially in developing countries that import energy products—and they account for the majority of countries worldwide.

Each energy crisis has had global repercussions. The Ukrainian crisis resulted in significant changes across all sectors, but it also initiated a long-term process of severing the EU's energy supply from the Russian Federation. Finding new energy sources is complex and dependent on many factors, including, most importantly, the availability of energy from other countries, the willingness and capacity to satisfy the needs of such a large customer, and the cost. The less developed countries of the EU and Europe as a whole have been particularly targeted, because they are connected to the Russian Federation through the energy infrastructure. As a result, finding new sources of supply is contingent on the construction of new infrastructure, which is an expensive, time-consuming endeavor fraught with uncertainty due to the close political ties between countries that demand energy and those that sell it.

In the situation described above, the less developed countries of Europe (although there are also examples of developed countries) increase their use of fossil fuels from their own sources and prioritize the security of energy supply. Concurrently, environmental and climate change concerns recede into the background. Particularly burdensome is the reality that the energy infrastructure in these countries is highly obsolete. The following risk indicators are suggested for this group:

- Country's current policy regarding the environment and climate change;
- Flexibility of state institutions to change policies;
- Speed and method of decision-making;
- Self-sufficiency of the country when it comes to energy resources;
- Technical stability of the energy system;
- Resistance of the energy system to the action of various influences;
- Energy price policy on the internal market; and
- Relations with energy-exporting countries.

It is clear from the above that, in less developed countries that are also highly dependent on energy imports, environmental and climate change policies cease to be a priority, and certain activities in this direction are completely halted (such as the restart of coal extraction). Priorities are imposed on the political relations between countries and the ability of states to provide sufficient energy for their citizens and industries. One must not lose sight of the fact that political relations

have been forged over decades and that developing countries cannot play a leading role in this process.

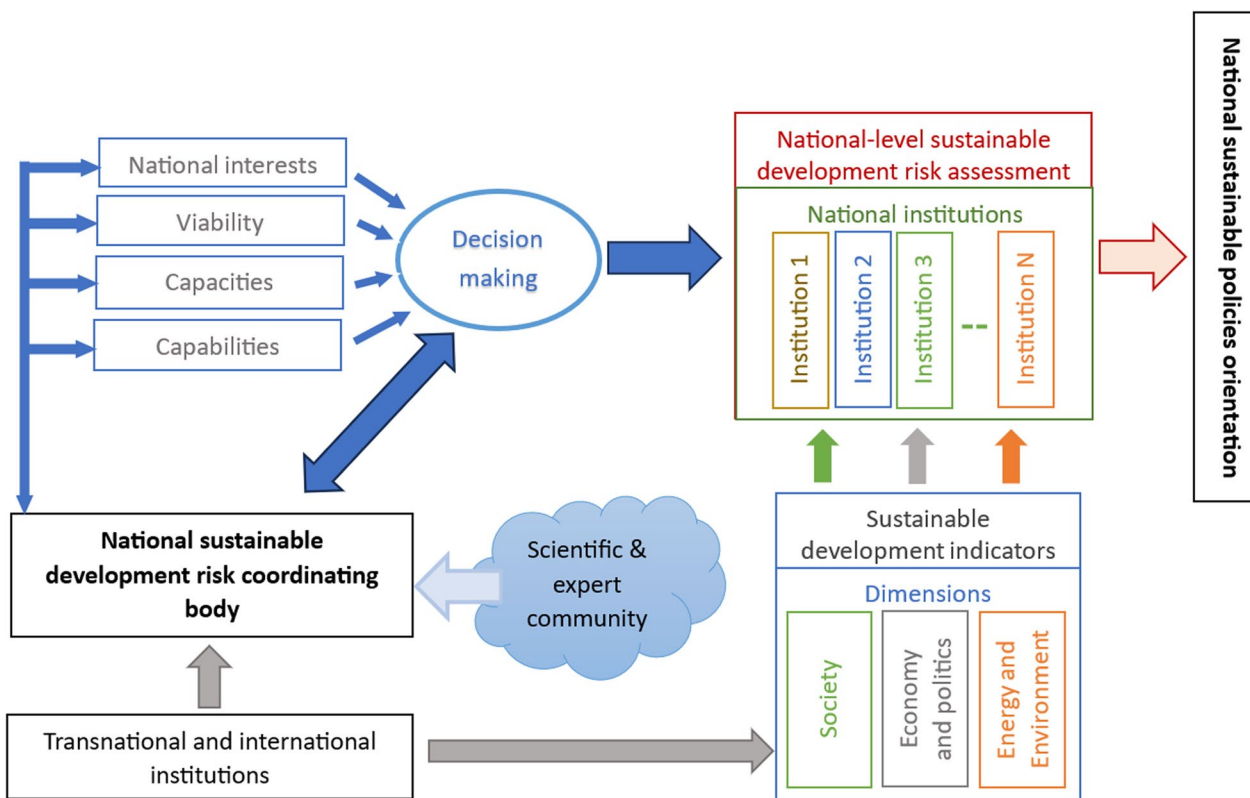
Considering the nature, breadth, and number of factors that influence the implementation of sustainable development, it is suggested that the newly devised risk indicators become an integral part of the decision-making model. However, they must be viewed as a distinct model, with a more in-depth analysis aimed at determining the national policy orientation for sustainable development, as shown in Fig. 2.

The presented risk assessment model for implementing sustainable development in developing countries places the observed country’s national interests, which are somewhat threatened after 2022, in the foreground. The model also highlights a unique challenge encountered by developing countries, namely, the absence of a monitoring system of this type, the weak involvement of experts, the lack of knowledge and objectivity, the use of outdated methods, and the ignorance of modern risk assessment methods under uncertain conditions. Therefore, it is proposed to establish an independent expert body to handle the aforementioned activities and provide decision-makers with its evaluations, projections, and recommendations.

**Conclusions**

This paper’s primary objective is the development of a risk analysis model for the implementation of sustainable development, taking into account the numerous challenges humanity faces after 2022. Since the 2008 global financial crisis, it has become clearly evident that national and international stakeholders often fail to interpret the global political economy and validate their policies and actions in relation to multilateralism. Instead, there is a deviation in perspective, in terms of a shift from the idea about markets allocating the resources and differentiating successful actors towards acceptance that states take active roles in shaping technology leaders and adopting the rules to suit their interests. In international relations, a paradigm that less state interference is a path to maintaining peace turned out to be just a discourse and de facto mechanism for unipolar dominance through financing global transnational networks, which culminated during the COVID-19 crisis. This process is accompanied by the reemergence of discourse that power relations prevail, and that trade is just a tool in the struggle for power between the countries in the international system.

In a world where globalization was advocated as a process that advances overcoming rivalries between states,



**Fig. 2** Model of Sustainable development risk assessment and national policies orientation

the idea of a national economy has returned to prominence. Substantive changes in the share in global trade and in national markets of companies headquartered in other countries increased the potential for conflict. This is a departure from the traditional view of trade, which implies that all benefit from it, whatever their specialization.

This shift in international relations has an impact on the risk analysis of sustainable development implementation. The main results of this study showed that conceptualization of a model for sustainable development risk analysis requires an adequate level of governance, the selection of a set of indicators, data collection, data processing, interpretation of the results, and policy recommendations. The risk of implementing sustainable development in the future can be found in the nature of international relations, which are more oriented to state and national security, natural resources availability, and financial stability, rather than on decarbonization and other sustainable development priorities and goals.

Integrating a perspective aimed at strategic sustainability instead of implementing a rational organizing principle leaves decision-makers often disconnected from socio-ecological aspects of business implications and focused on the short- and long-term interests of stakeholders and, consequently, finances. To adopt and implement sustainable development policies and regulations and enable strategic proactivity in that context, it is necessary to include national interests and constraints as prior driving forces for adopting practices. A risk management approach can be used to indicate the potential consequences of sustainability-related decisions within the international community, such as reputation, the ability to attract talent, and capital.

There is a risk, because the supranational structures impose policies and rules on the states. Development goals, which are dictated through financial control, outside of market validation, represent a substantive risk for national security and rational decision-making in the context of national interests.

This study, therefore, proposes (a) Model of inclusion of sustainable development implementation risk indicators in national decision making; and (b) Model of Sustainable development risk assessment and national policies orientation, both developed primarily in accordance with the characteristics of developing countries. Specifically, the aforementioned countries frequently lack well-defined strategies and policies for sustainable development, and if they do, their implementation is sluggish, with inadequate monitoring and evaluation of the impact on national policy as a whole. In general, a risk analysis for the implementation of defined sustainable development objectives is not conducted, or the implementation

mechanisms are not tailored to the particulars and capabilities of developing countries. Application, testing, and further development of the aforementioned and similar models can significantly enhance the implementation of the policy for sustainable development and reduce the implementation risk to an acceptable level. The adaptability of the presented models allows for their adaptation to the altered environmental conditions (which are numerous, diverse, rapid, frequently unpredictable, and without a clear pattern of movement of the phenomenon itself), which, as of 2022, have become a reality for all nations around the globe. The implementation of sustainable development necessitates a proactive approach and the development of efficient, flexible, and interdisciplinary risk assessment mechanisms, as well as an intensification of research in this area.

The purpose of this study is to highlight the significance of considering more complex methodological combinations of qualitative and quantitative methods, because the absence of one or giving priority to one set of methods can result in the absence of concrete scientific results, which in the social and humanities often has practical political ramifications for public policy. For this reason, it is suggested that future research on the concept devote special attention to investigating how to design the research methodology.

In addition to the foregoing, the study highlights the phenomenon that, in contemporary social and humanistic sciences, qualitative methodology is losing ground to quantitative, which has a direct impact on the scientific veracity of research. Research in the social and humanistic sciences should utilize a combination of the two methodologies. Depending on the specific subject of research, qualitative and/or quantitative methods should be used. Research and its results are another argument for the need to give special attention to scientific methodology and its purposeful application.

The study wants to point out the importance of considering more complex methodological combinations of qualitative and quantitative methods, because the absence of one or giving priority to one set of methods can lead to the absence of concrete scientific results, which often in the field of social and humanities can lead to practically political consequences in the field of public policy. That is why it is suggested that in future research on the concept, special attention should be paid to researching how to create the research methodology.

In addition to the above, the study also points to the phenomenon that in modern social and humanistic sciences, qualitative methodology is in retreat before quantitative, directly affecting the scientific truth of research. Research in the field of social and humanistic sciences should be conducted using a combination of both

approaches. Namely, research and its results represent another argument for the need to pay special attention to scientific methodology and its purposeful use, depending on the specific subject of research for which qualitative and/or quantitative methods should be used.

#### Acknowledgements

Manuscript has been edited by Tanja Paunović, professional translator for English language, Republic of Serbia.

#### Author contributions

MS prepared the concept of the study. PP was the main contributor in the Introduction part. MR and NV were the main contributors in modelling. All authors participated in manuscript editing and approved the final manuscript.

#### Funding

The research was supported by the Science Fund of the Republic of Serbia, Grant No. 303, *Circular economy as a model of development that forms a new identity of the Republic of Serbia—EDUCIRC2022*.

#### Availability of data and materials

The data sets used and/or analyzed during the current study are available from the corresponding author on reasonable request.

#### Declarations

#### Ethics approval and consent to participate

Not applicable.

#### Consent for publication

Not applicable.

#### Competing interests

The authors declare that they have no competing interests.

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Received: 6 June 2023 Accepted: 5 December 2023

Published: 16 December 2023

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