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The Evaluation of Territorial Spatial Planning from the Perspective of Sustainable Development Goals

Qiqi Hu ¹, Yanan Zhang ², Jiabin Wang ¹, Ran Huo ³ and Zhe Feng ^{1,2,*} ¹ School of Land Science and Technology, China University of Geosciences (Beijing), Beijing 100083, China² Key Laboratory of Land Consolidation, Ministry of Natural Resources, Beijing 100035, China³ Shandong Land Development Group Co., Ltd., Jinan 250014, China

* Correspondence: zhufeng@cugb.edu.cn

Abstract: Territorial spatial planning is crucial for fostering green production and lifestyles, contributing to ecological civilization, and shaping a beautiful China. However, evaluations of China's territorial spatial planning at a global level are scant. This study constructs a self-assessment tool for territorial spatial planning, anchored in the Sustainable Development Goals (SDGs). Initially, it develops an indicator system to assess provincial territorial spatial planning, tailored to the specificities of Chinese provinces. Subsequently, this study formulates problem guidance and performs a match analysis. The tool is then applied to assess the preparation of territorial spatial planning in Shaanxi Province, yielding visualized results. These results correlate the content of planning documents with the questions in the tool, ensuring alignment. Findings indicate that Shaanxi Provincial Territorial Spatial Planning (2021–2035) largely aligns with the SDGs' framework, while Shaanxi Province Land Space Ecological Restoration Planning (2021–2035) shows partial alignment. Discrepancies with global and national sustainability trends are noted, potentially linked to the unique role of ecological restoration in national spatial planning. By integrating SDGs, this study evaluates the rationality and potential for optimization in China's provincial territorial spatial planning. This approach aims to enhance public well-being and offers actionable recommendations for incorporating sustainable development into provincial spatial planning strategies.



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1. Introduction

The United Nations Sustainable Development Goals (SDGs) for 2030, adopted by the United Nations General Assembly in September 2015, present a comprehensive framework for sustainable development goals. These goals collectively embody a shared vision for a better future, with a primary focus on enhancing the well-being of all individuals [1]. They align with the overarching aim of sustainable development, applicable to both developed and developing nations, emphasizing sustainable growth and capacity enhancement. The objective is to attain economic progress, social inclusivity, and environmental sustainability, which pose formidable challenges [2].

Spatial planning and sustainable development are intertwined facets on the policy agenda [3]. The effective realization of SDGs can be accomplished by integrating them into pivotal plans, such as national-level socio-economic development plans. This amalgamation, coupled with the evaluation of SDGs, facilitates harmonized development across various levels: global, national, sub-national, and provincial. This approach aims to gauge the rationality and optimization potential of China's provincial territorial spatial planning to further enhance the well-being of its populace. Territorial spatial planning is the guide for national spatial development, the spatial blueprint for sustainable development, and the basic basis for various development, protection, and construction activities. Through the coordination and unification of territorial spatial planning and SDGs, it can promote

the formation of a sustainable development indicator system suitable for local conditions in China, more accurately monitor and promote the implementation of SDGs in China, and adjust China's sustainable development planning according to local conditions.

However, the current research focuses on the use control, technical reform of detailed planning and ecological control of territorial spatial planning; there are few studies on the evaluation of territorial spatial planning in combination with SDGs. At the same time, there is no relevant tool to examine the contribution of territorial spatial planning to sustainable development for such a large-scale national practice. Therefore, this paper introduces the concept of constructing a self-assessment tool for national territorial spatial planning, grounded in the principles of the SDGs. Drawing inspiration from the self-assessment tool for nature-based solutions developed by the International Union for Conservation of Nature (IUCN) [4,5], the tool offers a range of options, highly matched, basic matched, partial matched, and mismatched, for assessing alignment with the SDGs. These choices are normalized and quantified to gauge the degree of coherence between China's national spatial planning and the SDGs. Subsequently, this paper provides optimization recommendations for the sustainable development of China's territorial spatial planning. This paper will be derived from the Shaanxi Provincial Territorial Spatial Planning (2021–2035) and the Shaanxi Province Land Space Ecological Restoration Planning (2021–2035) on the official website of Department of Natural Resources of Shaanxi Province as study cases; the SDG-based territorial spatial planning tool explores the extent to which Shaanxi Province's planning aligns with the SDGs and evaluates the sustainability of the provincial planning.

This paper's structure is as follows: Section 2 summarizes the progress in SDGs' assessment and its relevance to territorial spatial planning through a review of the literature. Section 3 outlines the process of constructing a self-assessment tool for territorial spatial planning based on the SDGs. Section 4 employs the territorial spatial planning and ecological restoration planning of Shaanxi Province as an illustrative example to analyze the application of the self-assessment tool. The results are briefly discussed in Section 5, and this study's limitations are addressed in Section 6.

2. Literature Review

2.1. Progress in the Application of Sustainable Development Goal Assessments

Current research on the SDGs primarily revolves around transforming these goals and their associated targets into a practical management tool [6–10]. This approach serves as a means to aid countries in formulating implementation strategies, allocating resources, and monitoring their progress towards SDG attainment [11–13]. In addition to qualitative evaluations of the SDGs achieved through the construction of an indicator framework [14], there has been a gradual enrichment of related studies focusing on the quantitative assessment of the SDGs [15–18].

Guido Schmidt-Traub et al. have analyzed differences in national performance by introducing the SDG Index and the Indicator Board as analytical instruments for assessing national SDG benchmarks [14]. Lv et al., on the other hand, have assessed a province's progress towards specific goals and overall SDG achievement through the utilization of the SDG Index and a signpost assessment framework that employs a "traffic light" system with four color bands [19]. Meanwhile, Kinga Ivan et al. have measured Romania's progress in attaining the SDGs at local and regional levels through a comprehensive approach based on 90 indicators [20].

Simultaneously, exploring the synergistic and trade-off relationships among the SDGs holds great significance for effective SDG implementation [21–24]. This exploration is pivotal to accelerate SDG realization and promote policy consistency. Nilsson et al., based on a seven-point system of SDG interactions, identified and tested development approaches aimed at minimizing negative correlations among SDGs while enhancing positive correlations [25]. Methods such as the comprehensive index approach [26] and prior assessment methods [27] have also started considering the interplay between multiple SDGs. Liu et al. utilized the Nexus methodology to uncover interactions among all stakeholders and

the synergies and trade-offs within the administration of the SDGs [28]. Christian Kroll et al. employed the SDG Index database to investigate significant positive and negative correlations between SDG performance in various countries [29]. Furthermore, Xie et al. conducted a quantitative comparison of policy tools used by China, Japan, and South Korea to achieve SDGs at the macro level [30,31]. Their findings revealed imbalances in SDG progress among different Chinese provincial regions [32]. The quantitative assessment of SDGs and the exploration of interrelations among the goals can broaden the solution channels available to Chinese decision makers and promote a more coordinated approach to inter-regional development.

2.2. Territorial Spatial Planning Review

Spatial planning systems are complexly linked to the socio-economic, political, and cultural contexts of individual countries [33,34]. They include two key phases: preparation and plan implementation [35,36]. In European Union (EU) countries, four distinct spatial planning system models have emerged: regional-economic, comprehensive integrated, land use management, and urbanism traditions [37,38]. The EU 2020 strategy, formulated in 2010, emphasizes intelligent economic development and sustainable progress, with a specific focus on regional spatial planning. Notably, the decentralization of land use planning and policies from the central government to local authorities has been observed [35,39,40]. In the United Kingdom, spatial planning extends beyond traditional land use planning, and the Land Use Strategy sets a long-term vision for sustainable land use in Scotland [41,42]. Building upon this foundation, Scotland integrates public policies into spatial planning [43–45]. The United Kingdom prioritizes regional economic development planning, with an emphasis on balanced regional growth. The “London metropolitan area”, centered on the capital, London, exemplifies successful regional economic planning. Meanwhile, the United States’ National Resource Planning Board (NRPB) has pioneered comprehensive systematic planning in the country [46]. The inaugural comprehensive national spatial strategic plan, “U.S. 2050”, focuses on the integrated development of the population, environment, and economy, placing greater emphasis on environmental landscape, green spaces, and other planning components to foster sustainable economic growth. With the reform of the Party and government institutions in 2018, China is gradually establishing a five-level, three-category national spatial planning framework tailored to the new era of ecological civilization, and promoting the preparation of various types of territorial spatial planning at all levels, and the basic establishment of China’s territorial spatial planning system by 2019. Sustainable development has assumed an increasingly prominent role in the planning strategies of all nations.

The United Nations 2030 Agenda for Sustainable Development contains 17 Sustainable Development Goals, most of which are directly or indirectly related to sustainable spatial development, and territorial spatial planning is the guide for national spatial development and the spatial blueprint for sustainable development. UN-Habitat proposed that local plans should build upon a baseline diagnosis of the local context and conditions, setting out a comprehensive vision for the municipality, and integrating and aligning Goals and targets to specific policies and strategies. The SDG Acceleration Toolkit, created by the United Nations Sustainable Development Group (UNSDG) in 2017, assesses the institutional, policy coherence and coordination of the SDGs. Voluntary Local Reviews (VLRs) serve as a core tool in the monitoring process, and VLRs provide the grounds for municipalities to assess their progress on individual SDG targets, enhancing policy coherence, strategic planning, and multi-level coordination. UCLG, UN-Habitat, UNDP-Art, and Dipitació de Barcelona created a set of Training of Trainers (ToT) modules. Module 2 of this module, which belongs to the Territorial Planning and Sustainable Development Goals, focuses on the alignment of public policies with the SDGs and provides guidance on how to integrate the SDGs from planning to local policy implementation. Yang et al. proposed that production–living–ecological (PLE) space is a functional space classified from the perspective of multifunctional land use, and is an important prerequisite for China’s territorial spatial planning [47]. Wen et al. used Spearman coefficients to examine the

relationship between PLEs and SDGs to explore the impact of territorial spatial planning on SDGs [48,49].

3. SDG-Based Self-Assessment Tool for Territorial Spatial Planning

The “Transforming Our World: 2030 Agenda for Sustainable Development”, adopted by the United Nations, serves as a call to action and a guiding framework for all nations. Its overarching objective is to instigate a fundamental shift in the paradigms of economic, social, and resource–environmental sustainability.

The development of an SDG-based self-assessment tool for territorial spatial planning involves a systematic approach divided into three sequential steps:

An in-depth analysis of the themes and connotations of the SDGs [50] forms the initial phase. Guided by the principles of systematicity, scientific rigor, feasibility, and scalability, and taking into account the specific provincial context in China, a provincial evaluation indicator system is rigorously crafted.

Subsequently, in accordance with the design guidelines of the constructed provincial evaluation index system [51], the description of indicator alignment is presented in detail. Indicators are categorized into four distinct degrees of alignment: highly matched, basic matched, partial matched, and mismatched.

The final step involves standardizing and quantifying the four degrees of alignment. The overall alignment degree of each target is derived by comprehensive weight calculations. This comprehensive evaluation process includes all forms of national spatial planning.

3.1. Analysis of the Connotation of the Selected Sustainable Development Goals

The global indicator framework of the SDGs outlined in the 2030 Agenda for Sustainable Development provides an intrinsic context for explaining the SDGs in conjunction with the objectives of China’s territorial spatial planning, leading to the selection of relevant indicators [52].

SDG 1: Eradicate poverty in all its forms worldwide. The primary aim of SDG 1 is to eliminate poverty and minimize income inequality. It focuses on ensuring that vulnerable and marginalized populations have access to basic services and rights. Additionally, it seeks to enhance resource support for underdeveloped regions. Targets 1.4 and 1.5 have been integrated into the evaluation indicators of the self-assessment tool for territorial spatial planning, tailored to the provincial context in China.

SDG 2: Eliminate hunger, achieve food security, improve nutritional status, and promote sustainable agriculture. SDG 2 strives to ensure basic livelihoods, enhance nutrition, and improve overall well-being. It addresses food security and sustainable agriculture. Targets 2.1, 2.3, 2.5, and 2.a have been included in the evaluation indicators of the self-assessment tool, accounting for the provincial situation in China.

SDG 3: Ensure healthy lifestyles and promote well-being for all ages. SDG 3 is dedicated to safeguarding physical and mental health, reducing environmental pollution, and expanding health coverage. It aims to reduce the burden of disease and address mental health issues across all age groups. Target 3.9 has been incorporated into the evaluation indicators of the self-assessment tool, considering the provincial context in China.

SDG 4: Ensure inclusive and equitable quality education and lifelong learning opportunities for all. SDG 4 seeks to improve education access and quality, alleviate educational concerns, promote educational culture, and enhance overall educational attainment. Target 4.7 has been integrated into the evaluation indicators of the self-assessment tool, taking into account the provincial level in China.

SDG 6: Ensure access to water and sanitation for all while promoting sustainable development. SDG 6 addresses water as a fundamental resource and aims to ensure water availability for domestic and productive purposes, improve water use efficiency, and create a healthy environment. Targets 6.1, 6.2, 6.3, 6.4, 6.5, 6.6, and 6.a have been included in the evaluation indicators of the self-assessment tool, aligning with the provincial situation in China.

SDG 7: Ensure access to affordable, reliable, and sustainable modern energy for all. Energy is essential in daily life but can contribute to environmental pollution. SDG 7 aims to promote energy access and develop renewable energy sources, clean technologies, and efficient fossil fuel utilization. It seeks to minimize adverse effects on both people's lives and the environment. Targets 7.1, 7.2, 7.3, 7.a, and 7.b have been integrated into the evaluation indicators of the self-assessment tool, accounting for the provincial context in China.

SDG 8: Promote sustained, inclusive, and sustainable economic growth, full and productive employment, and decent work for all. SDG 8 endeavors to foster economic development on both national and regional scales, aiming to increase overall societal economic productivity through diversification and technological innovation. It also emphasizes the protection of workers' rights, including equal pay for equal work, and the promotion of equal opportunities for youth and persons with disabilities. Furthermore, it encourages sustainable tourism development policies and the promotion of local cultural products to create employment opportunities. Targets 8.1, 8.2, 8.3, 8.4, and 8.9 have been integrated into the evaluation indicators of the self-assessment tool for territorial spatial planning, tailored to the provincial context in China.

SDG 9: Build disaster-resilient infrastructure, promote inclusive and sustainable industrialization, and foster innovation. Industrial strength forms the backbone of a country or region and plays a crucial role in its economic development, ensuring the basic well-being of the population. SDG 9 aims to enhance the well-being of all by fortifying the foundation of the national economy, bolstering infrastructure resilience against disasters, fostering inclusive and sustainable industrialization aligned with contemporary developments, and promoting innovation within the industry. Targets 9.1, 9.2, 9.4, 9.5, and 9.b have been included in the evaluation indicators of the self-assessment tool for territorial spatial planning, taking into account the provincial situation in China.

SDG 10: Reduce inequalities within and between countries. In Shaanxi Province, the primary focus of SDG 10 is to diminish disparities among provincial regions, empower all citizens, raise awareness and understanding of the broader societal context and strategic planning, and facilitate social, economic, and political integration for all. Target 10.2 has been integrated into the evaluation indicators of the national spatial planning self-assessment tool, tailored to the provincial context in China.

SDG 11: Build inclusive, safe, resilient, and sustainable cities and human settlements. Adequate housing is a fundamental requirement for people's lives, and the aim of SDG 11 is to ensure basic living standards; plan and construct settlements that are inclusive, safe, and resilient to disasters; adopt unified urban development strategies; coordinate comprehensive development; and enhance public space infrastructure to better meet the needs of social welfare. In alignment with China's provincial situation, targets 11.2, 11.3, 11.4, 11.5, 11.6, 11.7, 11.a, and 11.b have been incorporated into the evaluation indicators of the self-assessment tool for territorial spatial planning.

SDG 12: Ensure sustainable consumption and production patterns. The foundation of people's lives revolves around consumption and production. SDG 12 aims to "save sources and open streams" by reducing pollution and waste during consumption and production processes, promoting innovative and energy-efficient industries and production technologies, such as cultural tourism and renewable energy sources. Central to production and consumption patterns is the cultivation of awareness regarding sustainable development. Targets 12.2, 12.8, and 12.a have been integrated into the evaluation indicators of the self-assessment tool for territorial spatial planning, considering the provincial context in China.

SDG 13: Take urgent action to address climate change and its effects. Climate change has emerged as a global concern, and countries worldwide share the responsibility of environmental protection and climate change mitigation. At the provincial level in Shaanxi Province, measures to respond to climate change include bolstering resilience and adaptation capacity to climate-related and natural disasters, along with indirect measures to

address climate change and its effects. Target 13.1 has been incorporated into the evaluation indicators of the self-assessment tool for territorial spatial planning, tailored to the provincial situation in China.

SDG 14: Conservation and sustainable use of oceans and marine resources for sustainable development. Marine resources represent valuable assets that can be harnessed and developed by humanity. The coastal regions in the eastern and southern parts of China are endowed with abundant marine resources. Moreover, the Yangtze River and the Yellow River, as pivotal waterways in China, discharge into the sea, traversing multiple provinces, potentially affecting marine resources. In alignment with China's provincial context, targets 14.1 and 14.2 have been integrated into the evaluation indicators of the self-assessment tool for territorial spatial planning.

SDG 15: Protect, restore, and promote the sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, halt and reverse land degradation, and halt biodiversity loss. The safeguarding and development of the ecological environment have emerged as central tenets of global and national development endeavors, fostering the realization of a shared future for humanity. This goal underscores the importance of forest management, land degradation mitigation, and biodiversity preservation. Targets 15.1, 15.2, 15.3, 15.4, 15.5, 15.9, 15.a, and 15.b have been incorporated into the evaluation indicators of the self-assessment tool for territorial spatial planning, tailored to the provincial level in China.

SDG 16: Create peaceful and inclusive societies for sustainable development, provide access to justice for all, and build effective, accountable, and inclusive institutions at all levels. While promoting comprehensive sustainable development planning and policy formulation, SDG 16 emphasizes the implementation of envisioned initiatives aimed at enhancing people's access to justice and establishing effective, accountable, and inclusive institutions. Targets 16.6, 16.7, and 16.10 have been integrated into the evaluation indicators of the self-assessment tool for territorial spatial planning, considering the provincial context in China.

3.2. Design Question Leads and Match Descriptions

In accordance with the evaluation index framework established in Section 3.2, a problem-guided design is undertaken, coupled with an analysis of the SDGs' essence and China's specific provincial circumstances. This results in the development of an assessment system tailored for the evaluation of local territorial spatial planning. The evaluation index framework, as devised by this research institute, selects 15 SDGs and 57 sustainable development targets based on the SDGs' index system, as depicted in the table or figure. Concurrently, the concrete description of indicator matches is provided through question guidance, thereby mitigating subjectivity to a certain extent. See Appendix A for full question guide form.

The SDG-based territorial spatial self-assessment tool created in this paper categorizes matches into four degrees: highly matched, basic matched, partial matched, and mismatched. Highly matched signifies that the selected indicators closely align with the targets. Basic matched denotes that the selected indicators are designed for the target content, although they may not be identical, with the effect being essentially similar. Partial matched indicates that the selected indicators include or reflect a portion of the target content or indirectly contribute to it. Mismatched, on the other hand, indicates a complete absence or inadequate representation of the targets within the content. Meanwhile, different colors and scores' values represent different matching degrees. Highly matched is represented by dark green and assigned a value of 3. Basic matched is shown in light green and assigned a value of 2. Partial matched is shown in orange and assigned a value of 1. Mismatched is shown in red and assigned a value of 0.

As an illustrative example, it considers SDG 2 (ending hunger, achieving food security, improving nutrition, and promoting sustainable agriculture), as presented in Table 1. The objective of SDG 2 is to ensure people's basic sustenance, progressively enhance nutritional

status within a framework of basic protection, and enhance human well-being. At the individual level, this entails optimizing the allocation of individual land and production resources, among other factors. From a broader perspective, it includes the assurance of soil and food security, the advancement of agricultural support technology, the bolstering of agricultural infrastructure, and the management of animal and plant gene banks. Additionally, it involves fostering multistakeholder cooperation in the marketplace and enhancing disaster prevention capacity within the system.

Table 1. Description of problem guidance and match degree for target 2.1.

SDG 2	Ending hunger, achieving food security, improving nutrition, and promoting sustainable agriculture.
Target 2.1	2.1: By 2030, end hunger and ensure that all people, especially the poor and vulnerable, including infants, have access to safe, nutritious, and adequate food throughout the year.
Problem guidance	Whether special consideration has been given to the poor and vulnerable groups, including infants; whether to consider the development of food-related industries and food trade to adequately meet people's needs for safe, nutritious, and adequate food.
Highly matched (3) (highly consistent with the targets)	Yes, special consideration is given to poor and vulnerable groups, including infants; significantly enhance the development of food-related industries and food trade to adequately meet people's needs for safe, nutritious, and adequate food.
Basic matched (2) (the selected indicators are designed for the target content, but not exactly the same or the effect is basically the same)	Involving poor and vulnerable groups, including infants, to enhance the development of food-related industries and food trade to adequately meet people's needs for safe, nutritious, and adequate food.
Partial matched (1) (the selected indicators involve or reflect part of the target's content or indirectly help the target's content)	Involving the development of food-related industries and food trade to meet people's needs for safe and nutritious food to a certain extent.
Mismatched (0) (a complete absence or representation of the objectives in the target content)	No, it does not involve the development of food-related industries and food trade, and does not meet people's needs for safe and nutritious food.

Note: Highly matched is represented by dark green. Basic matched is shown in light green. Partial matched is shown in orange. Mismatched is shown in red.

Consider target 2.1: By 2030, end hunger and ensure that all people, especially the poor and vulnerable, including infants, have access to safe, nutritious, and adequate food throughout the year. In light of China's provincial-level context, this target cannot be comprehensively evaluated via quantitative data. Moreover, it may not entirely align with the provincial circumstances. Consequently, the design inquiries are guided to "Whether special consideration has been given to the poor and vulnerable groups, including infants; and whether to consider the development of food-related industries and food trade to adequately meet people's needs for safe, nutritious and adequate food". A highly matched description would read as follows: "Yes, special consideration is given to poor and vulnerable groups, including infants; significantly enhance the development of food-related industries and food trade to adequately meet people's needs for safe, nutritious and adequate food". Basic matching is described as "involving poor and vulnerable groups, including infants, to enhance the development of food-related industries and food trade to adequately meet people's needs for safe, nutritious and adequate food". Partial matching

is described as “involving the development of food-related industries and food trade to meet people’s needs for safe and nutritious food to a certain extent”, while mismatching is described as “no, it does not involve the development of food-related industries and food trade, and does not meet people’s needs for safe and nutritious food”.

The problem-guided design and description of the degree of matching in the SDG-based self-assessment tool are similar to the method of target 2.1, and the focus is on combining the connotation of SDGs and the specific conditions of China’s provinces.

3.3. Evaluation Results and Analysis

In accordance with the selection of indicators deemed suitable for provincial territorial spatial planning documents and self-assessment tools, each indicator is categorized into one of four levels: highly matched, basically matched, partially matched, and mismatched. These choices are subsequently standardized and quantified, with respective values assigned as 3, 2, 1, and 0. It is important to note that each specific indicator within every goal carries the same weight. The overall matching degree for each goal can be determined by comprehensively calculating the weighted results, yielding a percentage and total score. This process facilitates the holistic evaluation of diverse types of territorial spatial planning. It allows for a visual analysis of the alignment between territorial spatial planning documents and SDGs.

Furthermore, utilizing the SDGs’ self-assessment tool for territorial spatial planning, an examination of the strategic layout, orientation, and developmental trajectory of territorial spatial planning documents created by provincial regions in China is conducted. The comprehensive weight percentage matching degree is defined as follows: Highly Matching Value: 75–100%, excluding 75%; Basic Matching Value: 50–75%, excluding 50%; Partial Matching Value: 0–50%, excluding 0; Mismatching Value: 0.

4. Application of Self-Assessment Tools: A Case Study of Shaanxi Province

4.1. Application of Self-Assessment Tools in Territorial Spatial Planning in Shaanxi Province

In line with the consideration of resource and environmental carrying capacity, territorial development suitability, and the demand for talent in the economic and social sectors, the Shaanxi Provincial Territorial Spatial Planning (2021–2035) strategically outlines patterns for protection and development, cultural heritage preservation, factor allocation, improvement and restoration, and regional synergies. This plan places particular emphasis on the effective safeguarding, well-organized development, and efficient utilization of territorial space. It includes the entire land area within the administrative boundaries of Shaanxi Province, covering a total area of 205,600 square kilometers. The planning horizon extends from 2021 to 2035.

The evaluation of the content within the Shaanxi Provincial Territorial Spatial Planning (2021–2035) document employs the SDG-based self-assessment tool for national spatial planning, which has been developed for this purpose. The evaluation process involves several key stages:

First, the self-assessment tool elucidates the core essence of specific objectives featured in the Shaanxi Provincial Planning Assessment. This aids in comprehending the scope and relevance of these objectives in relation to the planning indices.

Second, a comprehensive review of the Shaanxi Provincial Territorial Spatial Planning (2021–2035) document is conducted. This entails the extraction of pertinent indicators that correspond to the specific objectives and aligning them with the summarized context of the plan. During this phase, any indirect relationships between indicators and specific sustainable development objectives that may have been overlooked are identified.

Third, the matching degree for planning indicators is determined and quantified, guided by the question guide and matching degree descriptions provided within the self-assessment tool.

Lastly, following the principle of equal weighting for targets within each objective, the percentage and overall score reflecting the degree of alignment between each objective and

the SDGs are computed using the constructed self-assessment tool. Utilizing SDG 2 as a case study (Table 2), the relevant content extracted from the evaluated Shaanxi Provincial Territorial Spatial Planning is juxtaposed with the corresponding specific objectives, guided by the provided instructions. Concurrently, to mitigate the risk of omissions and oversights during the content screening process, it is crucial to attain a more profound comprehension of certain terms and concepts mentioned in the planning documents.

Table 2. Match between Shaanxi provincial territorial spatial planning (2021–2035) and SDG 2.

SDGs	Target	Problem Guidance of Shaanxi Provincial Territorial Space Planning (2021–2035)	Degree of Match
SDG2 Zero Hunger	2.1	(1) The poor and the vulnerable are given special consideration. (2) Consider the development of food-related industries and food trade to fully meet people’s needs for safe, nutritious and sufficient food.	Partial matched
	2.3	(1) Ensure that small-scale food producers have equal access to land, other productive resources and inputs, knowledge, financial services, markets, and opportunities for value addition and non-farm employment. (2) Double incomes of small-scale food producers, in particular women, indigenous peoples, family farmers, pastoralists and fishers.	Highly matched
	2.4	(1) Ensure sustainable food production systems and implement resilient agricultural practices that increase productivity and production. (2) Help maintain ecosystems, that strengthen capacity for adaptation to climate change, extreme weather, drought, flooding and other disasters and that progressively improve land and soil quality.	Highly matched
	2.5	(1) Maintain the genetic diversity of seeds, cultivated plants and farmed and domesticated animals and their related wild species. (2) Implement policies and measures to maintain genetic diversity in seeds, cultivated crops, farmed and domesticated animals and related wildlife species.	Basic matched
	2.a	(1) Enhance international cooperation, in rural infrastructure, agricultural research and extension services, technology development and plant and livestock gene banks. (2) Enhance agricultural productive capacity of the country and regions	Partial matched

For instance, the term “agricultural industrial belt” pertains to the unique climatic and geographical conditions of the local region. This concept includes a comprehensive consideration of diverse local agricultural resources, including a wide range of agricultural product varieties and innovative agricultural organizational models. The overarching goal is to align with market demands and enhance the competitiveness of the agricultural sector. This concept serves as a developmental blueprint for the establishment of distinctive, large-scale, coordinated, and sustainable areas that are advantageous for the production of agricultural products.

Furthermore, the “agricultural industrial belt” also serves as an effective strategy for absorbing surplus labor from rural areas, thereby generating employment opportunities. A deeper understanding of the agricultural industrial belt reveals that this indicator is well aligned with specific objectives, 2.1, 2.3, 8.3, 9.b, and 11.3, within the assessment framework.

4.2. Application of Self-Assessment Tools in Ecological Restoration Planning in Shaanxi Province

The Shaanxi Province Land Space Ecological Restoration Planning (2021–2035) addresses critical issues related to Shaanxi’s vulnerable ecological environment, the diminished ecological functions of farmland, and the declining ecological quality of urban areas. The plan outlines a comprehensive environmental management zone and a multi-level corridor-based land space ecological restoration pattern. It outlines six pivotal ecological restoration projects that include the protection and restoration of mountains, rivers, forests, farmlands, lakes, grasslands, and deserts. This integrated approach spans ecological, so-

cial, economic, and managerial dimensions. The planning scope includes the entire land area within the administrative boundaries of Shaanxi Province, covering a total area of 205,600 square kilometers. The planning period extends from 2021 to 2035.

Utilizing the SDG-based self-assessment tool designed for national spatial planning, an evaluation of the “Shaanxi Provincial Territorial Land Space Ecological Restoration Planning (2021–2035)” was conducted. The methodology employed aligns with the steps utilized in the self-assessment tool for national spatial planning in the “Shaanxi Provincial Territorial Spatial Planning (2021–2035)”.

Utilizing SDG 15 as an example (Table 3), relevant content from the assessed Shaanxi Provincial Land Space Ecological Restoration Planning (2021–2035) is extracted, aligning it with the provided guidance. For instance, the concept of a “national park” entails the adoption of a fundamental development strategy prioritizing the protection of the ecological environment, natural resources, and balanced tourism development. This strategy aims to safeguard the natural ecological environment, preserve the originality and integrity of natural cultural heritage, enforce stringent protection and restoration measures for critical ecosystems, and ensure the long-term and effective conservation of rare wildlife. The protection of rare wildlife and plants, coupled with the sustained preservation of natural heritage for future generations, holds significant importance in establishing a robust national ecological security barrier. A more comprehensive understanding of the national park concept reveals its alignment with targets 2.5, 6.6, 8.9, 11.4, 11.6, 15.4, and 15.5 within the assessment framework.

Table 3. Match between Shaanxi Province Land Space Ecological Restoration Planning (2021–2035) and SDG 15.

SDGs	Target	Problem Guidance of Shaanxi Provincial Land Space Ecological Restoration Planning (2021–2035)	Degree of Match
SDG15 Life on Land	15.1	(1) Correctly identify terrestrial and inland freshwater ecosystems and their services. (2) Protect, restore and sustainably use terrestrial and inland freshwater ecosystems and their services.	Highly matched
	15.2	(1) Promote the implementation of sustainable management of all types of forests, halt deforestation and restore degraded forests. (2) Increase afforestation and reforestation globally.	Highly matched
	15.3	(1) Combat desertification, restore degraded land and soil. (2) Strive to achieve a land degradation-neutral world.	Highly matched
	15.4	(1) Ensure the conservation of mountain ecosystems. (2) Strengthen the capacity of mountain ecosystems to provide benefits essential for sustainable development.	Highly matched
	15.5	(1) Take urgent and significant action to reduce the degradation of natural habitats and halt the loss of biodiversity. (2) Protect and prevent the extinction of threatened species.	Highly matched
	15.9	Integrate ecosystem and biodiversity values into national and local planning, development processes, poverty reduction strategies and accounts.	Basic matched
	15.a	Mobilize and significantly increase financial resources from all sources to conserve and sustainably use biodiversity and ecosystems.	Highly matched
	15.b	Mobilize significant resources from all sources and at all levels to finance sustainable forest management.	Basic matched

4.3. Results and Discussion

4.3.1. The Analysis of the Results from Applying the Self-Assessment Tool in Shaanxi Province’s Territorial Spatial Planning

Using the SDG-based self-assessment tool for territorial spatial planning, we conducted an evaluation of the “Shaanxi Provincial Territorial Spatial Planning (2021–2035)”. The construction of the assessment framework for the remaining objectives followed the same steps as outlined for SDG 2. The final results are illustrated in Figure 1, where gray signifies the unselected specific objectives of sustainable development, orange indicates “partial matched”, dark green represents “high matched”, light green signifies “basic matched”, and red indicates “mismatched”.



Figure 1. Matching results of the self-assessment of Shaanxi Provincial Territorial Spatial Planning and Shaanxi Provincial Territorial Spatial Ecological Restoration Planning.

Upon assessing Shaanxi Provincial Territorial Spatial Planning (2021–2035) using the SDG-based self-assessment tool for territorial spatial planning, the final result percentage stands at 58.09%, denoting a fundamental level of alignment (Figure 2). This indicates that Shaanxi Province’s territorial spatial planning (2021–2035) is well coordinated with the established assessment system but does not achieve complete congruence. Simultaneously, it exhibits a substantial degree of coherence with the United Nations’ SDGs’ framework, demonstrating consistency with both global and national sustainable development trends and their extensive scope.

Notably, there are no disparities in the assessment of Shaanxi Province’s territorial spatial planning objectives. Over 73% of the assessed objectives display basic matched, while the remaining less than 27% exhibit partial compatibility. SDG 11 and SDG 15 of Shaanxi Provincial Territorial Spatial Planning (2021–2035) demonstrate notably highly matched, with percentages of 79.17% and 75%, respectively. This underscores the substantial emphasis placed on promoting the sustainable development of urban areas and enhancing the basic living conditions of the population.

In conclusion, Shaanxi Province’s territorial spatial plan demonstrates a commendable commitment to fostering the sustainable development of urban areas and improving the fundamental living conditions of its residents.

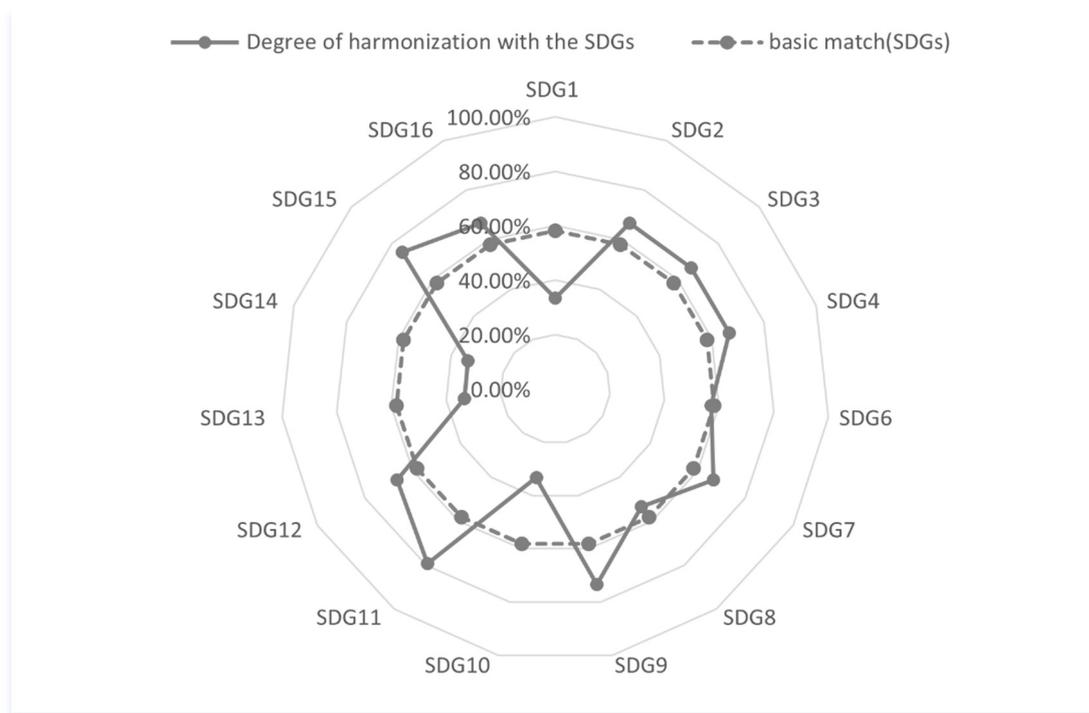


Figure 2. Self-assessment results of territorial spatial planning in Shaanxi Province.

4.3.2. The Analysis of the Results of the Application of Self-Assessment Tools in Ecological Restoration Planning in Shaanxi Province

The SDG-based self-assessment tool for territorial spatial planning evaluates the content of the document titled “Shaanxi Province Land Space Ecological Restoration Planning (2021–2035)”. The procedures for assessing the remaining objectives within the constructed framework correspond to the compatibility analysis steps previously outlined for SDG 15. The final results are visually represented in Figure 1.

The utilization of the SDG-based self-assessment tool for territorial spatial planning in the context of Shaanxi Province’s ecological restoration planning yielded a final score of 46.67%. This score indicates a partial alignment, bordering on basic compatibility (Figure 3). This implies that Shaanxi Province Land Space ecological restoration planning (2021–2035) generally conforms to the established assessment system.

In the assessment of the objectives within Shaanxi Provincial Land Space Ecological Restoration Planning (2021–2035), it is worth noting that SDG 7, which pertains to ensuring access to affordable, reliable, and sustainable modern energy, deviates from the overall pattern. Approximately 46.7% of the assessed objectives exhibit partial alignment, while the remaining 46.7% demonstrate a basic or high level of compatibility. This divergence suggests certain disparities between the Land Space Ecological Restoration Plan and the global considerations of sustainable development, particularly concerning the plan’s scope and comprehensiveness. It is noteworthy that in the SDG-based assessment for territorial spatial planning in Shaanxi Province, the territorial spatial ecological restoration plan excludes modern energy, likely due to its status as a critical specialized plan within the broader national spatial planning framework. In the context of the objectives within Shaanxi Province’s land space ecological restoration plan, SDG 15 stands out with a high level of compatibility, registering at 91.67%. This underscores the plan’s significant emphasis on the protection, restoration, and sustainable utilization of ecosystems.

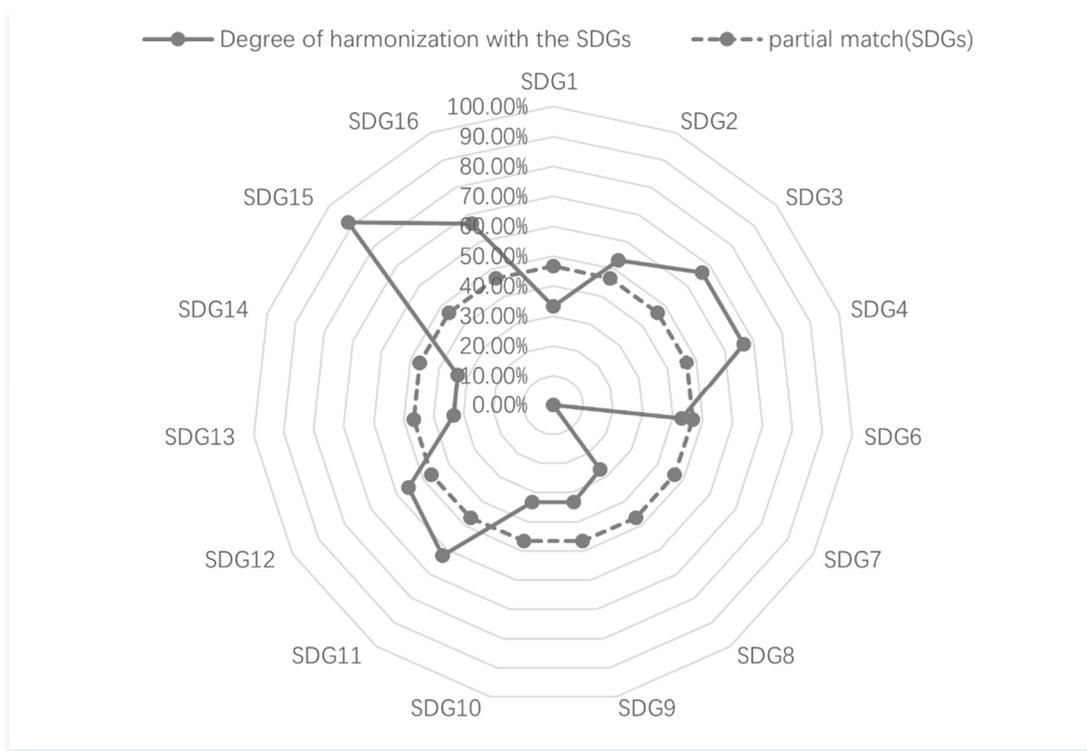


Figure 3. Self-assessment results of ecological restoration planning in Shaanxi Province.

5. Conclusions

Drawing upon the United Nations SDGs, this paper systematically examines the essence of SDGs, consolidates and synthesizes assessment methods and advancements, and constructs a specialized self-assessment tool for provincial territorial spatial planning grounded in the SDGs, tailored to the unique characteristics of Chinese provinces. The key procedural steps involve crafting a suitable SDG assessment framework for the provincial level in China, formulating a guiding problem set, delineating the degree of alignment, extracting relevant indicators from selected national spatial planning documents, rigorously scrutinizing the level of congruence, and conducting a comprehensive evaluation of the results. The findings are as follows:

The comprehensive evaluation result of the SDG-based territorial spatial planning assessment tool for Shaanxi Provincial Territorial Spatial Planning (2021–2035) indicates a fundamental level of compatibility. This underscores a strong alignment with the devised assessment system. This alignment implies a robust adherence to the United Nations' SDGs' framework, and an enhanced consistency in the provincial-level territorial spatial planning's alignment with global and national sustainable development trends. This alignment also includes a broader scope and a more inclusive consideration of strategic direction and developmental aspects.

The overall evaluation results of the SDG-based territorial spatial planning assessment tool for Shaanxi Province Land Space Ecological Restoration Planning (2021–2035) reveal a partial degree of alignment, approaching a basic level. The assessment demonstrates a moderate level of congruence with the established assessment system, addressing or reflecting some of the formulated assessment objectives or indirectly influencing them. Simultaneously, it exhibits a heightened harmony with the SDGs' framework endorsed by the United Nations. Nevertheless, the planning and design of ecological restoration for the provincial land space exhibit certain disparities concerning global and national sustainable development trends or the breadth of the covered scope, notably excluding relevant content related to modern energy.

Both the Shaanxi Provincial Territorial Spatial Planning (2021–2035) and Shaanxi Province Land Space Ecological Restoration Planning (2021–2035) emphasize the significance of fostering harmonious development between humans and nature. They focus on safeguarding, restoring, and promoting the sustainable use of ecosystems. The Ecological Restoration Planning provides more detailed content regarding the implementation objectives for the harmonious development of ecology and humanity. This specificity aligns with the strategic directives of the Territorial Spatial Planning, reflecting the broader focus at the national and global levels on the sustainable development of ecosystems.

The document of Shaanxi Province's territorial spatial planning can further promote the harmonious development of people and nature; add specific management measures from the aspects of ecological protection, resource and energy conservation, and intensive development of territorial space; strengthen the binding content of the plan in the fields of ecological protection and control; and improve the pertinence and operability of the preparation of territorial spatial planning. Shaanxi Provincial Territorial Spatial Ecological Restoration Planning (2021–2035) can consider adding modern energy-related content, such as the ecological restoration of mining areas being closely related to the development of energy, through the sustainable use of energy to further promote the restoration and protection of the ecological environment.

6. Prospects

The United Nations 2030 Agenda for Sustainable Development contains 17 Sustainable Development Goals, most of which are directly or indirectly related to sustainable spatial development, and territorial spatial planning is the guide for national spatial development and the spatial blueprint for sustainable development. Global urban expansion will accelerate land cover and habitat change, with serious implications for regional and global environmental issues such as climate change, biodiversity, and arable land loss. Territorial spatial planning can better achieve the goals of sustainable development by emphasizing bottom-line constraints and a mechanism for pushing back to ensure ecological, economical use of resources and the use of resources in an appropriate manner, and efficient use of territorial space to promote intensive development, as well as green development and integrated synergies. Meanwhile, carried out at the same time are the concepts of ecological civilization and sustainable development in the areas of planning, planning implementation, and management systems.

This paper has developed a self-assessment tool for assessing China's provincial territorial spatial planning based on the SDGs, particularly focusing on evaluating Shaanxi Province's territorial spatial planning and territorial spatial ecological restoration planning. However, it is essential to acknowledge certain limitations in this study.

Firstly, the construction of the evaluation index system carries a degree of subjectivity. Although the SDGs' connotations have been analyzed, the researcher's subjective influence plays a role in determining the evaluation indexes. To enhance the accuracy of the evaluation, it is advisable to consider expert review, verification, or the incorporation of reference opinions in future research endeavors. Secondly, due to the ongoing refinement and localization of the specific planning index system for national spatial planning, there is an insufficient quantitative evaluation of normative indicators in the guidelines for the preparation of national spatial planning. Simultaneously, the available data from the current conditions, which are sourced from public version planning documents, are limited. This limitation results in a partial matching evaluation of ecological restoration planning for the national spatial space in Shaanxi Province, including only select indicators. Consequently, these findings may exhibit deviations, and to enhance the accuracy of the evaluation of national spatial planning, it is crucial to utilize more detailed document data and incorporate additional quantitative indicators. At the same time, the self-assessment tool method of territorial spatial planning based on Sustainable Development Goals is relatively unique, and it is difficult to compare the results due to the lack of similar studies. Later, similar studies in other regions can be added for comparison.

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Appendix A

Sustainable Development Goals		Target ¹	Problem Guidance (Y/N)
SDG 1 No Poverty	End poverty in all its forms everywhere	1.4	(1) The poor and the vulnerable are given special consideration. (2) People have equal rights to economic resources. (3) People acquire the use of land and other forms of property. (4) It involves people's access to natural resources and appropriate new technology.
		1.5	(1) The poor and the vulnerable are given special consideration. (2) It strengthens the resilience and reduces their exposure and vulnerability to climate-related extreme events and other economic, social, and environmental shocks and disasters.
SDG 2 Zero Hunger	End hunger, achieve food security and improved nutrition, and promote sustainable agriculture	2.1	(1) The poor and the vulnerable are given special consideration. (2) Consider the development of food-related industries and food trade to fully meet people's needs for safe, nutritious, and sufficient food.
		2.3	(1) Ensure that small-scale food producers have equal access to land, other productive resources and inputs, knowledge, financial services, markets, and opportunities for value addition and non-farm employment. (2) Double incomes of small-scale food producers, in particular women, Indigenous peoples, family farmers, pastoralists, and fishers.
		2.4	(1) Ensure sustainable food production systems and implement resilient agricultural practices that increase productivity and production. (2) Help maintain ecosystems that strengthen capacity for adaptation to climate change, extreme weather, drought, flooding, and other disasters and that progressively improve land and soil quality.

		2.5	(1) Maintain the genetic diversity of seeds, cultivated plants, and farmed and domesticated animals and their related wild species. (2) Implement policies and measures to maintain genetic diversity in seeds, cultivated crops, farmed and domesticated animals, and related wildlife species.
		2.a	(1) Enhance international cooperation, in rural infrastructure, agricultural research and extension services, technology development, and plant and livestock gene banks. (2) Enhance agricultural productive capacity of the country and regions.
SDG 3 Good Health and Well-being	Ensure healthy lives and promote well-being for all at all ages	3.9	(1) Effectively reduce the use of hazardous chemicals. (2) Take measures to reduce air, water, and soil pollution.
SDG 4 Quality Education	Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all	4.7	(1) Ensure that all learners acquire the knowledge and skills needed to promote sustainable development. (2) Conduct education for sustainable development and sustainable lifestyles, human rights, gender equality, promotion of a culture of peace and non-violence, global citizenship, and appreciation of cultural diversity and of culture's contribution to sustainable development.
		6.1	Achieve universal and equitable access to safe and affordable drinking water for all.
		6.2	(1) Special consideration is given to the needs of women, girls, and vulnerable groups. (2) Take measures to achieve access to adequate and equitable sanitation and hygiene.
		6.3	(1) Reduce pollution and eliminate dumping. (2) Reduce the discharge of hazardous chemicals and materials to a minimum and halve the proportion of untreated wastewater. (3) Substantially increasing recycling and safe reuse globally.
SDG 6 Clean Water and Sanitation	Ensure availability and sustainable management of water and sanitation for all	6.4	(1) Substantially increase water-use efficiency across all sectors. (2) Ensure sustainable withdrawals and supply of freshwater.
		6.5	(1) Implement integrated water resources' management at all levels. (2) Transboundary cooperation as appropriate.
		6.6	(1) Correctly identify water-related ecosystems, including mountains, forests, wetlands, rivers, aquifers, and lakes. (2) Protect and restore water-related ecosystems.
		6.a	(1) Help to adopt and improve rainwater harvesting, desalination, water efficiency, wastewater treatment, water recovery, and reuse technologies. (2) Help developing countries with water- and sanitation-related activities and programs.

SDG 7 Affordable and Clean Energy	Ensure access to affordable, reliable, sustainable, and modern energy for all	7.1	Ensure universal access to affordable, reliable, and modern energy services.
		7.2	Substantially increase the share of renewable energy in the global energy mix.
		7.3	Double the global rate of improvement in energy efficiency.
		7.a	(1) Facilitate access to clean energy research and technology, including renewable energy, energy efficiency, and advanced and cleaner fossil fuel technology. (2) Promote investment in energy infrastructure and clean energy technology.
		7.b	Expand infrastructure and upgrade technology for supplying modern and sustainable energy services for all in developing countries.
SDG 8 Decent Work and Economic Growth	Promote sustained, inclusive, and sustainable economic growth, full and productive employment, and decent work for all	8.1	Sustain per capita economic growth in accordance with national circumstances.
		8.2	(1) Achieve higher levels of economic productivity through diversification, technological upgrading, and innovation. (2) Develop high-value-added and labor-intensive sectors.
		8.3	(1) Promote development-oriented policies. (2) Support productive activities, decent job creation, entrepreneurship, creativity, and innovation. (3) Encourage the formalization and growth of micro-, small-, and medium-sized enterprises, including through access to financial services.
		8.4	Progressively improve the global resource efficiency in consumption and production and endeavor to decouple economic growth from environmental degradation.
		8.9	(1) Devise and implement policies to promote sustainable tourism. (2) Create jobs and promote local culture and products.
SDG 9 Industry, Innovation, and Infrastructure	Build resilient infrastructure, promote inclusive and sustainable industrialization, and foster innovation	9.1	(1) Develop quality, reliable, sustainable, and resilient infrastructure. (2) Support economic development and human well-being.
		9.2	Promote inclusive and sustainable industrialization.
		9.4	(1) Upgrade infrastructure and retrofit industries to make them sustainable. (2) Increase resource-use efficiency and greater adoption of clean and environmentally sound technologies and industrial processes.
		9.5	(1) Enhance scientific research; upgrade the technological capabilities of industrial sectors. (2) Encourage innovation and substantially increasing the number of research and development workers per 1 million people and public and private research and development spending.
		9.b	(1) Support domestic technology development, research, and innovation. (2) Ensure a conducive policy environment for, inter alia, industrial diversification and value addition to commodities.

SDG 10 Reduced Inequalities	Reduce inequality within and among countries	10.2	Empower and promote the social, economic, and political inclusion of all, irrespective of age, sex, disability, race, ethnicity, origin, religion, or economic or other status.
		11.2	(1) Provide access to safe, affordable, accessible, and sustainable transport systems for all. (2) Improve road safety by expanding public transport. (3) Special attention to the needs of those in vulnerable situations, women, children, persons with disabilities, and older persons.
		11.3	Enhance inclusive and sustainable urbanization and capacity for participatory, integrated, and sustainable human settlement planning and management in all countries.
		11.4	Strengthen efforts to protect and safeguard the world's cultural and natural heritage.
SDG 11 Sustainable Cities and Communities	Make cities and human settlements inclusive, safe, resilient, and sustainable	11.5	(1) With a focus on protecting the poor and people in vulnerable situations. (2) Significantly reduce the number of deaths and the number of people affected.
		11.6	(1) Reduce the adverse per capita environmental impact of cities. (2) Pay special attention to air quality and municipal and other waste management.
		11.7	Provide universal access to safe, inclusive and accessible, green, and public spaces, in particular for women and children, older persons, and persons with disabilities.
		11.a	Support positive economic, social, and environmental links between urban, peri-urban, and rural areas.
		11.b	Substantially increase the number of cities and human settlements adopting and implementing integrated policies and plans towards inclusion, resource efficiency, mitigation, and adaptation to climate change, and resilience to disasters.
		12.2	Achieve the sustainable management and efficient use of natural resources.
SDG 12 Sustainable Consumption and Production	Ensure sustainable consumption and production patterns	12.8	Ensure that people everywhere have the relevant information and awareness for sustainable development and lifestyles in harmony with nature.
		12.a	(1) Support developing countries to strengthen their scientific and technological capacity. (2) Move towards more sustainable patterns of consumption and production.
SDG 13 Climate Action	Take urgent action to combat climate change and its impacts	13.1	Strengthen resilience and adaptive capacity to climate-related hazards and natural disasters in all countries.

SDG 14 Life Under Water	Conserve and sustainably use the oceans, seas, and marine resources for sustainable development	14.1	(1) Prevent and significantly reduce marine pollution of all kinds. (2) Reduce land-based activities, including marine debris and nutrient pollution.
		14.2	(1) Sustainably manage and protect marine and coastal ecosystems, including by strengthening resilience to disasters. (2) Take action for their restoration in order to achieve healthy and productive oceans.
SDG 15 Life on Land	Protect, restore, and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss	15.1	(1) Correctly identify terrestrial and inland freshwater ecosystems and their services. (2) Protect, restore, and sustainably use terrestrial and inland freshwater ecosystems and their services.
		15.2	(1) Promote the implementation of sustainable management of all types of forests, halt deforestation, and restore degraded forests. (2) Increase afforestation and reforestation globally.
		15.3	(1) Combat desertification; restore degraded land and soil. (2) Strive to achieve a land-degradation-neutral world.
		15.4	(1) Ensure the conservation of mountain ecosystems. (2) Strengthen the capacity of mountain ecosystems to provide benefits essential for sustainable development.
		15.5	(1) Take urgent and significant action to reduce the degradation of natural habitats and halt the loss of biodiversity. (2) Protect and prevent the extinction of threatened species.
		15.9	Integrate ecosystem and biodiversity values into national and local planning, development processes, poverty reduction strategies, and accounts.
		15.a	Mobilize and significantly increase financial resources from all sources to conserve and sustainably use biodiversity and ecosystems.
SDG 16 Peace, Justice, and Strong Institutions	Promote peaceful and inclusive societies for sustainable development, provide access to justice for all, and build effective, accountable, and inclusive institutions at all levels	15.b	Mobilize significant resources from all sources and at all levels to finance sustainable forest management.
		16.6	(1) Develop effective, accountable, and transparent institutions at all levels. (2) Let the public feel satisfied with the public service experience.
		16.7	Ensure responsive, inclusive, participatory, and representative decision making at all levels.
		16.10	Ensure public access to information and protect fundamental freedoms.

¹ <https://sdgs.un.org/goals> (accessed on 20 January 2024).

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