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Do SDGs Support Human Security? A Machine Learning Analysis with Policy Recommendations

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Abstract

Human Security (HS) emphasizes safeguarding individuals from pervasive threats—ranging from poverty and health crises to environmental degradation and governance failures—by placing people's rights, needs, and dignity at the center of security and development discourse. The Sustainable Development Goals (SDGs), serving as a global compass for equitable and sustainable progress, inherently support the well-being and resilience of people worldwide. Yet the explicit linkages between these two frameworks are not always clear. This chapter introduces a machine learning (ML) approach to systematically map how HS-related policy documents and reports align with the SDGs. Using advanced language-model embeddings and similarity scoring, our methodology identifies the extent to which each policy text addresses defined HS Aspects and their Material Issues. This allows us to move beyond simple keyword spotting toward capturing nuanced thematic alignment. The resulting scores highlight overlooked connections or synergies, enabling policymakers to see where further integration can enhance outcomes. Our mapping exercise revealed that Economic and Food Security achieved the highest similarity scores, indicating robust policy alignment. Conversely, Technological Security received lower scores, highlighting a gap in addressing digital and innovation challenges within current frameworks and the necessity for integrated policy solutions. By identifying thematic synergies and gaps, we provide policymakers with concrete insights delineate policies that simultaneously enhance SDG outcomes and strengthen HS dimensions. Our results underscore the deep interconnection between HS and the SDGs, advancing our understanding of their mutual supportiveness. This study not only fills a critical gap in research by offering a pragmatic tool for assessing document alignment with the SDGs but also proposes an inclusive framework for policymakers and scholars. This framework encourages the integration of human-centered approaches with sustainable development goals. In doing so, it highlights the essential role of cutting-edge methodologies in navigating the complexities of global security and sustainability.

Keywords: Human Security (HS), Sustainable Development Goals (SDGs), Machine Learning, Economic Policy, Textual Analysis

1. Introduction

The Sustainable Development Goals (SDGs), adopted by the United Nations in 2015, represent a global commitment to addressing a wide array of interconnected challenges, from poverty and inequality to climate change and environmental degradation. These goals, while ambitious, can be significantly enhanced by integrating a Human Security (henceforth HS) approach. Human security places people, not states, at the centre of analysis, focusing on the interconnectedness and vulnerabilities of individuals and communities. The concept of human security encompasses freedom from fear, freedom from want, and the freedom to live in dignity. This approach provides a critical lens for understanding how various factors, such as economic insecurity, ill health, and lack of education, affect human lives.

This chapter will explore the intricate relationship between the SDGs and the eight key aspects of human security: economic, food, health, environmental, personal, community, political and technological security. The seven first aspects are identified in the 1994 UNDP Human Development Report, whereas technological security was introduced at a later stage as a response to digitalisation and its rising global challenges. More specifically, the chapter will examine how SDG-related policies can impact these different dimensions of human security, recognising that threats to human security are interrelated and overlapping. To this end, we collect and analyse a sample of 40 key policy documents of the EU Green Deal which are directly related to the promotion of SDGs and map their relevance to the distinct Human Security Aspects and the Material Issues which underpin them.

To facilitate this exploration, the chapter introduces a Machine-Learning tool designed to map key policy documents related to specific SDGs to their respective human security aspects and the underlying material issues. This tool provides a novel method for analysing and understanding how different policy interventions can contribute to or undermine human security. By connecting SDG policies with human security, the chapter aims to highlight the importance of a comprehensive approach that moves beyond siloed actions to address complex, cross-sectoral challenges. Such an approach is vital for achieving sustainable and equitable development that leaves no one behind.

The following section briefly summarizes the concept of HS and its pillars; section 3 highlights the intricacies of the HS– SDG nexus; section 4 describes the methodological aspects of the Machine Learning tool mapping the SDG policy documents to Human Security aspects; section 5 comments on the findings, followed by a critical discussion and conclusion.

2. Human Security: Foundations and Dimensions

The concept of Human Security was introduced by the United Nations in the 1990s, and it has gained renewed relevance in current discussions about humanity and Earth's future. This renewed focus has been particularly driven by the COVID-19 pandemic, increasing climate change initiatives, and persistent global political conflicts and tensions. It expands the security paradigm beyond territorial integrity and arms control, focusing instead on critical aspects of everyday life. At its core, Human Security promotes an approach that combines prevention, protection, and empowerment strategies. These strategies are distinguished by their focus on people, environmental awareness, and adaptation to specific contexts.

The HS framework serves as a powerful instrument for governments and international bodies to address interconnected challenges and tackle their fundamental causes before they escalate into major humanitarian, economic, and environmental disasters. It acknowledges that a secure society is one where individuals have stable livelihoods, accessible healthcare, clean environments, and vibrant communities, all underpinned by inclusive and fair governance.

The United Nations Development Programme (1994) conceptualized HS as encompassing seven pillars. However, the scope of HS has broadened in recent years to include threats and challenges associated with digitalization and technological advancements (UNDP, 2022). Therefore, an eighth aspect of measuring Human Security has been included to cover technological needs and threats, such as innovation, access to technology and levels of digital literacy, as well as cybersecurity. The highlights that Human Security is an ever-evolving concept, requiring constant adaptation by the academic and policy-making communities to novel threats.

The eight Aspects of HS are depicted in Figure 1 and could briefly be described as follows[1]:

1. **Economic Security**: Stable and sufficient income, job opportunities, and basic social safety nets
2. **Food Security**: Reliable access to adequate, safe, and nutritious food
3. **Health Security**: Access to quality healthcare, protection from diseases, and support for physical and mental well-being
4. **Environmental Security**: Protection from environmental degradation, climate-related risks, and resource scarcity
5. **Personal Security**: Freedom from violence, exploitation, and human rights abuses
6. **Community Security**: Safeguarding cultural identity, social cohesion, inclusion, and community resilience
7. **Political Security**: Protection of civil and political rights, freedom from oppressive regimes, and strong, accountable institutions
8. **Technological Security**: Enabling human experience with technological advances and allowing humanity to achieve more with less

This spectrum reveals that threats to HS do not conform neatly to national boundaries or traditional security domains. Instead, they emerge from complex socio-economic conditions, ecological changes, and governance challenges. HS frameworks emphasize that strengthening human resilience is a cornerstone of stability, particularly in a world facing more frequent pandemics, climate instability, technological disruptions, and polarized societies.

[1] Based on insights from UNDP (1994), Koundouri & Dellis (2023) and IAP (2025).

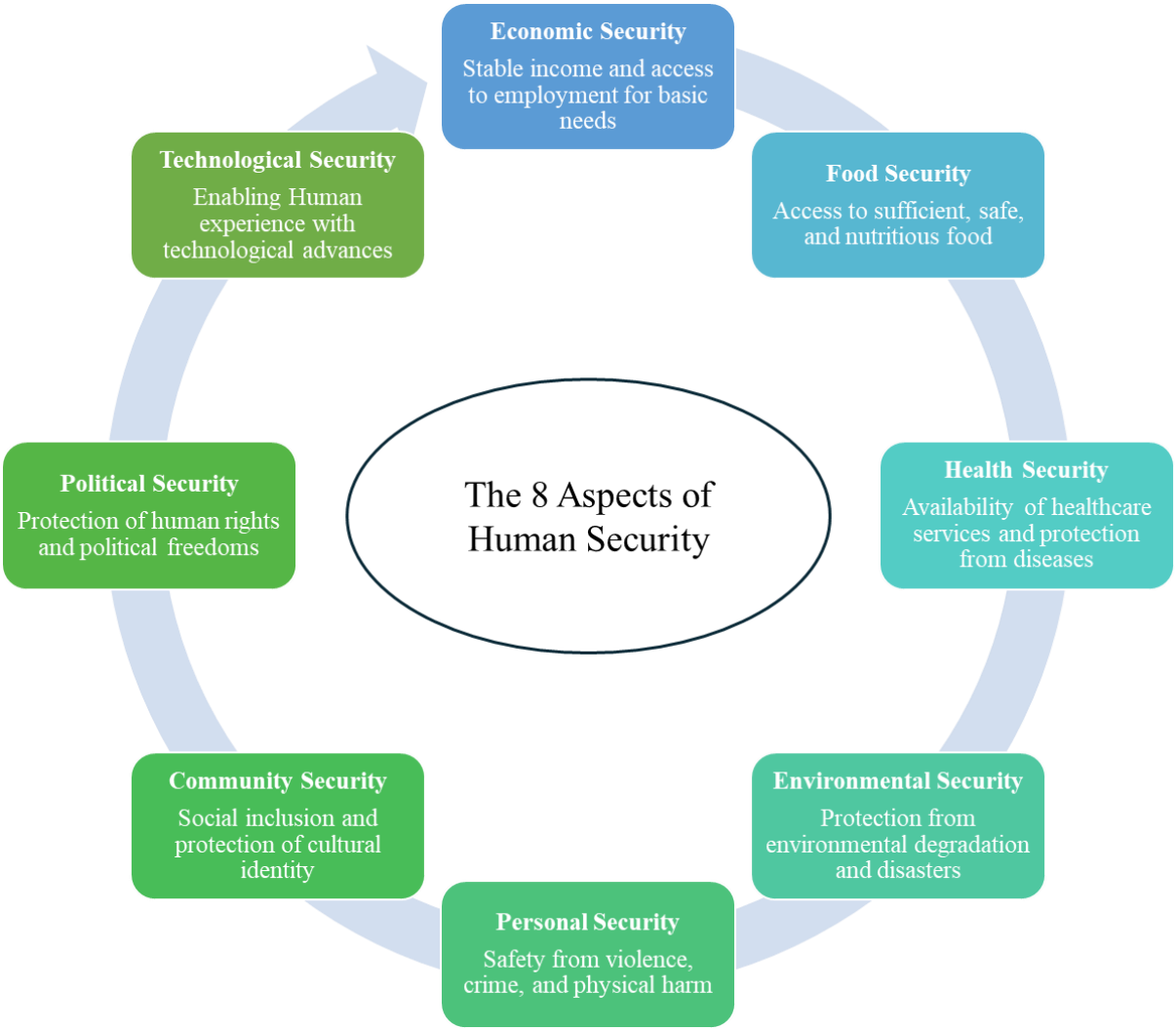

Figure 1: The eight Aspects of Human Security

Source: Authors' elaboration based on UNDP (1994), UNDP (2022)

3. Sustainable Development Goals and the Human Security Nexus

The SDGs, developed through a global consultative process and adopted by all UN Member States, are universal, inclusive, and integrated in nature (UN, 2024). Their 17 goals and 169 targets acknowledge that challenges like poverty, inequality, climate change, and weak governance are interdependent and demand holistic solutions. The SDGs are global in nature, transcending the dichotomy between developed and developing countries, and constitute the first universal effort to provide a shared vision

for the world to usher sustainable development (Crabtree and Gasper, 2020; UN Global Compact, 2019).

The relationship between HS and the SDGs is fundamental, with Agenda 2030 establishing policies that protect both individuals and communities from various threats. The importance of Human Security in achieving the SDGs is recognized by the UN Trust Fund for Human Security, which emphasizes prioritizing individual welfare. Research shows that these two frameworks strengthen each other, sharing common goals of promoting global welfare and sustainable development (Gasper et al., 2020; Crabtree and Gasper, 2020; Koundouri et al., 2024). Recent global challenges like COVID-19 and energy crises have highlighted how interconnected these frameworks are, emphasizing the need for comprehensive policy solutions.

In practice, many SDGs directly overlap with HS priorities, for example:

- **SDG 1 (No Poverty)** and **SDG 2 (Zero Hunger)** align predominantly with the economic and food security dimensions of HS.
- **SDG 3 (Good Health and Well-Being)** complements health security by emphasizing healthcare access, disease prevention, and health system resilience.
- **SDG 9 (Industry, Innovation and Infrastructure) and SDG 17 (Partnerships for the Goals)** connect with technological security.
- **SDG 13 (Climate Action)** reinforces environmental security by addressing climate change mitigation and adaptation.
- **SDG 16 (Peace, Justice, and Strong Institutions)** resonates with personal, community, and political security pillars, emphasizing justice, accountability, and inclusive governance.

However, while SDGs typically target national and regional governance levels, this approach can inadvertently exclude vulnerable populations due to existing power dynamics and institutional weaknesses (Gasper and Gomez, 2013). Human Security principles help address this limitation by combining grassroots initiatives with high-level policies, improving implementation effectiveness and supporting the principle of leaving no one behind. This combined strategy enables meaningful participation from both individuals and communities in sustainable development efforts (Gasper et al.,

2020). Building on these connections, our research introduces a systematic tool that connects Human Security elements with specific SDGs, allowing for better integration of Human Security insights into sustainability planning.

Policies aimed at achieving the Sustainable Development Goals (SDGs) can significantly contribute to the promotion of Human Security, as both agendas share common objectives and interconnected principles (UNDP, 2022). The SDGs aim to create a world free from poverty, hunger, disease, and violence, while also ensuring access to education, healthcare, and social protection. These goals mirror the core tenets of human security, which seeks to protect people from fear and want, and to empower them to live in dignity (UN, 2024).

By addressing the root causes of insecurity such as poverty and inequality, policies aimed at achieving the SDGs can directly enhance human security. For instance, initiatives focused on improving access to healthcare, education and decent work can promote both human development and economic security, strengthening the resilience of individuals and communities. Moreover, policies promoting peaceful and inclusive societies, access to justice and accountable institutions can reduce violence and enhance personal and political security.

4. Methodological Approach

4.1 A framework for Human Security measurement

We aim to identify the complementarities and gaps of EU policies intrinsically linked to the SDGs (Koundouri et al., 2024) with tangible improvements in HS as embedded in its aspects. To this end, we first need to develop a comprehensive framework for conceptualizing and measuring HS. On top of its importance for understanding and addressing the complex challenges faced by individuals and communities, this approach allows us to operationalize the association of policy initiatives with the distinct aspects of HS.

As a first step, the key conceptual topics that shape the different Aspects of Human Security are identified and categorized. These topics, referred to as Material Issues, highlight the critical factors influencing both obstacles and enablers of success in achieving Human Security equitably. For example, in the case of Political Security, the

material issues affecting the real outcomes for the individual are *violent conflict, human rights violations, crime and gender-based violence, legal protection and disaster preparedness*. A total of 41 Material Issues have been identified, each representing a pressing concern across Human Security Aspects. These issues serve as a guide for policymakers and decision-makers, helping them pinpoint challenges and opportunities more effectively. This disaggregation allows for a more robust measurement of progress across Human Security aspects and provides the framework for linking the SDG-related policy documents to HS outcomes. A detailed breakdown of these Material Issues is provided in Figure 2. Table A1 in the Appendix lists all Material Issues for the 8 HS aspects in detail.

To facilitate the evaluation of thematic linkages between the SDGs and Human Security, a keyword-based semantic analysis approach is implemented. This method systematically identifies and maps relevant connections between SDG-related policies and distinct Human Security Aspects, ensuring a structured and data-driven assessment of their interrelations. As a result, a list has been compiled with approximately 10 keywords for each Material Issue. The same keywords from each Material Issue were later combined to describe their respective Human Security Aspects. Additionally, a corresponding set of definitions has been developed to ensure clarity and consistency in interpretation. Having clearly defined keywords for each Human Security aspect ensures that the automated analysis can recognize when a policy text discusses relevant topics, even if it uses slightly different wording. Essentially, these keywords act like “search clues” that guide the system toward passages in the policy documents that match the underlying security themes. As a result, the mapping becomes more accurate and transparent, helping both experts and non-experts quickly see which parts of a policy address economic, health, or environmental concerns, for example.

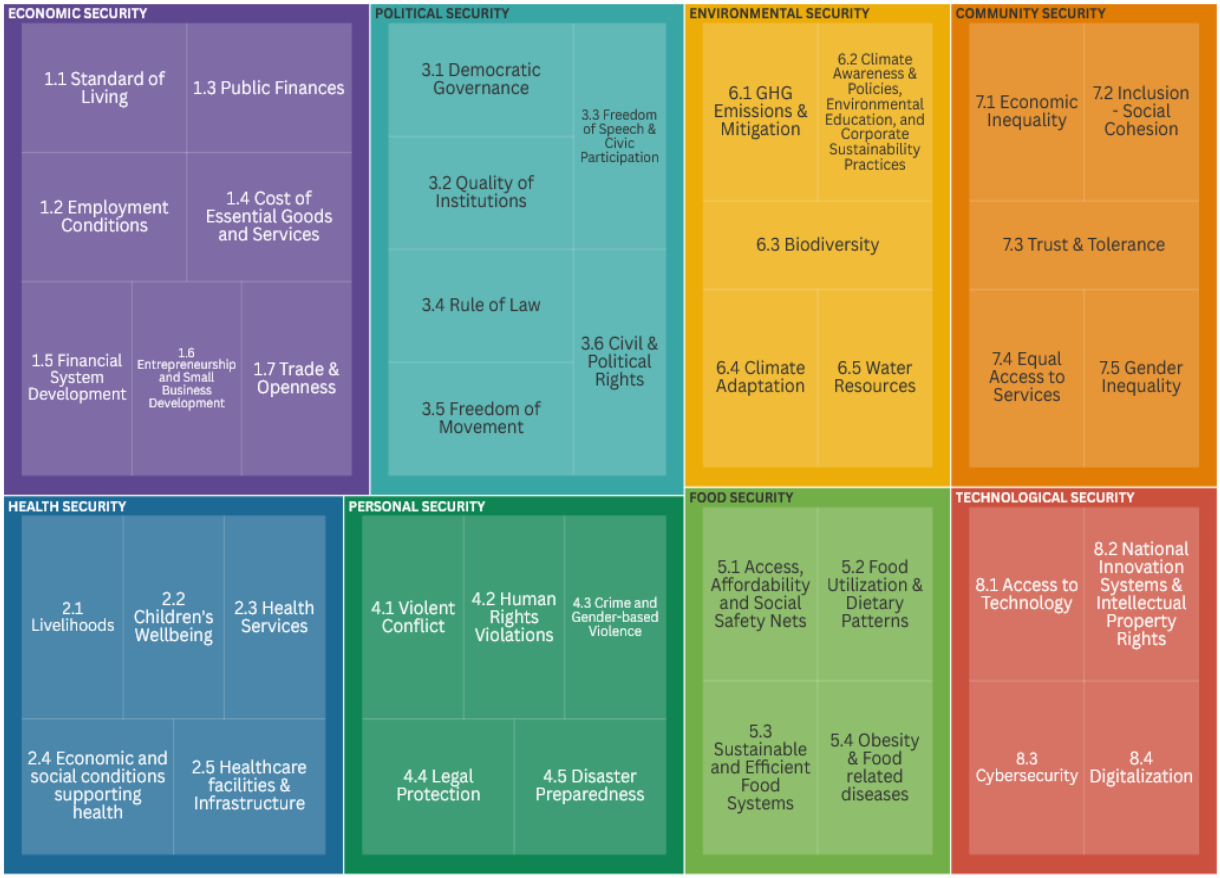

Figure 2: Human Security Aspects and Material Issues

Source: Authors' Elaborations

4.2 Sample selection of policy documents

Our principal aim is to identify the potential for meeting human security targets, as well as the gaps in policy initiatives integrated in the EU Green Deal (EGD). The EGD is the EU's strategic roadmap to transform its economy and society to achieve climate neutrality by 2050. Its main purpose is to decouple economic growth from resource use, reduce greenhouse gas (GHG) emissions, and ensure a just and inclusive transition toward sustainability. In this sense its concept and operationalization are intrinsically linked with SDGs in Europe and beyond, as it aligns economic and environmental policies to foster sustainable development (Eurostat, 2023).

We investigate the rich set of information encompassed in the bevy of policies under the auspices of the EGD. Specifically, for the sample selection, a dataset comprising 74

policy documents derived from the EGD was utilized, as outlined in the study by Koundouri et al. (2024). In their analysis, they employed advanced Machine Learning techniques to evaluate the degree of alignment between these policy documents (published from 2019 to 2023) and the SDGs. Their findings revealed a strong alignment of many policies with specific SDGs, while also highlighting underrepresented areas that indicate a need for further attention. This provides us with a conceptual anchor, linking each policy document to one or more SDGs. To create the sample for this study, we identified the three policy documents most strongly associated with each SDG (Table 1).

SDG	Policy 1	Policy 2	Policy 3
SDG1	Sustainable Growth Strategy 2021	Goods Repair Rules Proposal	Circularity in Automotive Sector
SDG2	Farm to Fork Strategy	Sustainable Products Standard	Agri-food Marketing Standards Revision
SDG3	Clean Air Directive	Agri-food Marketing Standards Revision	Circularity in Automotive Sector
SDG4	Sustainable Growth Strategy 2021	Organic Action Plan	New European Bauhaus Initiative
SDG5	Organic Action Plan	EU Electricity Market Reform	Goods Repair Rules Proposal
SDG6	Zero Pollution Plan	Water Quality Standards Directive	Urban Wastewater Treatment Directive
SDG7	EU Energy Integration Strategy	Repower EU Energy Plan	Energy Price Mitigation Options
SDG8	Sustainable Growth Strategy 2021	EU Financial System Reform	Sustainable Blue Economy
SDG9	European Industrial Strategy	EU Financial System Reform	Green Freight Transport
SDG10	Sustainable Growth Strategy 2021	EU Financial System Reform	Green Deal Industrial Plan
SDG11	Smart Mobility Strategy	TEN-T Expansion	EU Urban Mobility Framework
SDG12	Sustainability in Chemicals	EU Taxonomy & Finance Directive	Industrial Emissions Modernization
SDG13	2030 Climate Target Plan	Climate Change Adaptation Strategy	Effort Sharing Regulation Update

SDG14	EU Fisheries Energy Transition	Marine Ecosystems Restoration Plan	Fisheries Policy Communication
SDG15	EU Biodiversity 2030	Anti-Deforestation & Soil Health Proposal	Nature Protection Regulation
SDG16	New European Bauhaus Initiative	Nature Protection Working Document	Energy Labelling Regulation Update
SDG17	Circular Economy Plan	Save Gas for Winter	Goods Repair Rules Proposal

Table 1: European Green Deal Policies with the strongest alignment with the SDGs. Source: Authors' elaboration from Koundouri et al. (2024)

In those cases where certain policies were linked to multiple SDGs, duplicates were removed to ensure each document appeared only once in the final dataset. This process resulted in a focused subset of 40 policy documents for detailed analysis (Table A2 in the Appendix).

The rationale for this selection is grounded on one of the core objectives of the European Green Deal: achieving a just transition, expressed by the "leave no one behind" principle, which inherently echoes the concept of Human Security, which emphasises safeguarding people for major threats of any kind. Consequently, our overarching aim is to investigate how the SDGs, as reflected in the selected policy documents, contribute to and promote Human Security.

The selected policy documents provide a comprehensive dataset for evaluating the extent to which SDGs contribute to Human Security. However, to assess these connections in a systematic way, a robust analytical framework is required. The next section introduces a Machine Learning-based approach that uses semantic text analysis to measure the alignment between policy texts and key HS dimensions.

4.3 *Machine Learning for HS-SDG Mapping*

Methodology

The core aspect of our research is to gauge the extent to which policies associated with the EGD cater to the different HS aspects. To this end, we employ a *semantic text analysis* approach to evaluate how thoroughly EU Green Deal policy documents address multiple Human Security (HS) dimensions in relation to the 17 SDGs. Rather

than relying on simple keyword spotting, we draw on advanced *transformer-based embeddings* to capture nuanced matches between policy text and the established definitions of HS Aspects. The overall procedure follows Koundouri et al. (2025) and consists of three main phases—data preparation, embedding and similarity calculation, and coverage scoring—and uses a curated JSON file that provides detailed descriptors and material issues for each HS Aspect.

Data Preparation and Textual Descriptors

The textual corpus for this study consists of policy documents, each representing an official legislative or regulatory text. To prepare for semantic modeling, these documents undergo systematic extraction, parsing, and cleaning. The text is segmented into smaller passages to maintain coherence and improve the performance of embedding models (Reimers and Gurevych, 2019). This segmentation enables more precise analysis by allowing comparisons at the level of discrete textual units rather than entire documents.

A central resource in this process is a curated JSON file that codifies Human Security (HS) Aspects (e.g., Economic Security, Health Security, Political Security) and their associated Material Issues (e.g., Standard of Living, GHG Emissions & Mitigation, Cybersecurity). Each entry in the JSON includes a short textual definition, keywords reflecting key thematic concepts, and a structured breakdown of Material Issues. These definitions are based on well-established references in Human Security research, including foundational frameworks from the United Nations Development Programme (1994) and subsequent refinements by the Commission on Human Security (2003). Notably, 'Technological Security' is included as an additional contemporary dimension that extends beyond the original frameworks.

By embedding both the HS Aspects and their Material Issues (e.g., "Economic Security: an assured basic income and livelihood…" alongside sub-categories such as "Employment Conditions" or "Public Finances"), the methodology ensures alignment with established human security concepts rather than ad hoc interpretations (Bajpai, 2000). The inclusion of targeted keywords (e.g., "income," "poverty," "unemployment") further enhances the model's ability to detect relevant content within policy texts. This structured approach enables a more reliable semantic comparison, ensuring that policy discussions on topics like labor markets, social welfare, or trade policies are accurately linked to the appropriate HS Aspects. The

JSON file thus serves as both a conceptual reference and a practical tool for guiding the matching process

Embedding and Similarity Calculation

Once the policy text has been divided into manageable segments, each segment undergoes transformation into numerical vector representations (commonly known as *embeddings*). This process leverages advanced *language modeling* approaches from the rapidly evolving field of neural-based Natural Language Processing (NLP). We use a Sentence-BERT model, a specialized technique that modifies the original Bidirectional Encoder Representations from Transformers (BERT) architecture (Devlin et al., 2019) to produce meaningful sentence-level vectors (Reimers & Gurevych, 2019).

The essential premise of embedding-based methods is that semantically similar strings of text will be mapped to positions closer to each other in a multidimensional vector space. Consequently, by encoding both the segmented policy text and predefined HS Aspects (and their Material Issues) into this shared space, we can apply a simple measure—*cosine similarity*—to evaluate how closely each policy segment addresses a particular security dimension. Where the similarity is high, we conclude that the text in that segment meaningfully references the relevant HS Aspect or Material Issue (Wang & Cerrato, 2020). As described in section 4.4, this allows us to advance a step further and examine the association with the distinct SDGs, leveraging the existing EGD-SDG relevance from Koundouri et al. (2023).

These embedding and similarity-based methods have broader applications in domains such as document classification, topic modeling, and question answering. Their advantage stems from an ability to capture contextual information about words and phrases, rather than relying solely on literal keyword overlap. This offers a robust mechanism for identifying more subtle or conceptually related passages that still match the spirit of a given HS descriptor, even if explicit “keyword hits” are sparse or non-existent (Devlin et al., 2019; Reimers & Gurevych, 2019).

Coverage Scoring and Normalization

After computing similarity scores for each segmented passage in the policy text, it becomes necessary to synthesize these numerous values into a single coverage measure per HS Aspect. In this study, a standard solution is the so-called top-k approach, which sorts all segment-level similarity scores in descending order, then includes only the strongest subset (for instance, the top three or top ten percent). By emphasizing the highest-scoring passages, the method ensures that genuinely relevant text is highlighted without letting numerous weaker matches dilute the result (Reimers & Gurevych, 2019). However, there is flexibility in how these data can be consolidated: one could simply use an overall mean, or a threshold-based method that includes all segments above a certain similarity value. Each of these scoring variants suits different analytical goals—some researchers favor weighting top results heavily, while others prefer capturing all semantically plausible matches.

Once the raw coverage scores for each Human Security aspect are computed from the semantic analysis, they serve as independent indicators of the degree of semantic alignment between the policy text and the respective HS descriptors, yielding a normalized score in the 0-1 interval. In practice, a higher score indicates stronger alignment for that HS aspect, but the values across aspects do not represent proportional percentages. The same approach is applied at the level of Material Issues, offering detailed insights into subtopic relevance (e.g., "Health Services" versus "Public Finances"). This method enables a direct comparison of the raw semantic similarity values across policies and aspects, helping to identify which themes are most prominent in each policy document.

Output, Visualization, and Interpretation

Following the scoring process, each policy document's coverage metrics are assembled into a structured JSON file. By employing a consistent data format, the methodology ensures that the same set of metrics—raw coverage scores, normalized percentages, and segment details—can be easily examined in subsequent analysis or integrated into other workflows. In addition, we enhance our analysis with visual outputs in the form of a heatmap demonstrating how coverage percentages compare across Human Security Aspects and across policy documents. These graphical representations offer a direct and interpretable snapshot of policy alignment, enabling a faster grasp of which

Human Security concerns each document addresses more thoroughly, and which remain comparatively under-emphasized (Alkire, 2003). Through this *data-driven lens*, researchers and policymakers can spot patterns, identify gaps, and make more informed decisions on whether current policy text adequately reflects the principles that define human security in the contemporary context.

4.4 Mapping HS to the SDGs

To further enhance the analysis of the relationship between HS aspects and the SDGs, we introduce a matrix-based approach that quantifies the intensity of their connection. This methodology provides a structured means of identifying the extent to which different HS aspects align with specific SDGs, based on their shared association with European Green Deal (EGD) policy documents. The key objective of this approach is not to derive absolute interpretative values from the resulting scores but rather to establish an acceptable methodological framework for systematically capturing the strength of the HS-SDG relationship.

Step 1: HS-Policy Matrix

The first step involves creating a matrix that links 8 Human Security aspects to the 40 policy documents selected from the European Green Deal. This matrix (with dimensions 8 x 40) is derived from the semantic text analysis applied in this study, which assigns scores based on the extent to which each policy document addresses a particular HS aspect. These scores represent the relative importance of each policy for different security dimensions, forming the foundation for the subsequent analysis.

Step 2: Policy-SDG Matrix

The second step involves leveraging the results from Koundouri et al. (2024), which provide quantitative scores indicating the alignment of the 40 policy documents with the 17 SDGs. These scores capture the extent to which each policy contributes to the achievement of a specific SDG. By structuring these relationships into a 40 × 17 matrix, we create a representation of policy-to-SDG linkages that serves as the second key input for our analysis.

Step 3: Matrix Multiplication

To estimate the intensity of the connection between HS aspects and SDGs, we perform a matrix multiplication of the two previously constructed matrices. This operation produces a new 8 × 17 matrix, where each element represents a derived score indicating the relative strength of the relationship between a specific HS aspect and a given SDG.

It is important to note that the resulting values do not serve as absolute measures of impact, but rather as indicators of the degree of thematic alignment between HS and SDGs, mediated through their shared association with policy documents. This means that the interpretation of the final scores should not be overemphasized in absolute terms. Rather than providing precise numerical evaluations, the key takeaway from this analysis is the relative intensity of relationships—highlighting which HS aspects tend to be more strongly connected to specific SDGs and which relationships may require further exploration.

5. Results

5.1 Semantic Analysis of Policy Documents and Human Security Aspects

Drawing upon the aggregated coverage scores for each Human Security (HS) Aspect, we observe how frequently—on average—each dimension emerges in the EU Green Deal corpus. As summarized in Figure 3, Economic Security leads overall with a mean similarity score of approximately 0.45. This makes it the most frequently referenced Aspect, indicating that discussions related to livelihoods, employment, wages, trade, or financial stability appear comparatively often in policy texts. Economic Security exhibits an average relatedness to the EGD policy documents, thus revealing the approach of EGD policies to issues related to the economic aspect when addressing the green transition. The relatively low level of dispersion (the lowest coefficient of variation across all eight aspects) indicates that this is not driven by some extreme correlations with specific policies.

Food Security is second in terms of average similarity with a mean score of 0.44, however is skewed from the presence of the two highest scores in the distribution,

recorded for the Farm2Fork Strategy and the Zero Pollution Plan. It is followed by Community Security (0.42) and Environmental Security (0.41). Apart from Health Security (0.41), the other HS aspects - Personal, Political and Technological Security - have an average score of less than 0.4, combined with a relatively high dispersion.

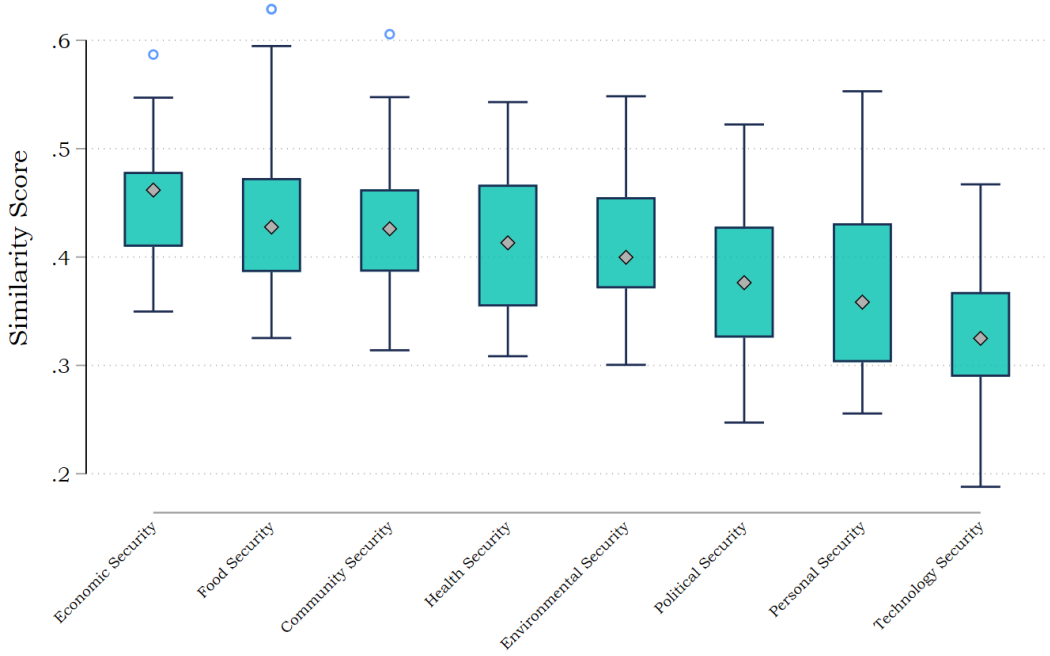

Figure 3: Similarity Scores across HS Aspects

Source: Authors' calculations based on the content of the 40 EGD policy documents

Technological Security occupies the lower end of the spectrum with a mean similarity of roughly 0.33. It is also noteworthy that this HS aspect shows the highest degree of dispersion in its relation to EGD policy documents. Hence, within this corpus there are many targeted as well as irrelevant policies. This highlights the need to complement existing or future policies with technological and digital elements. Although it still appears regularly, its lower mean suggests fewer explicit references to issues of digital divide, cybersecurity, or digital transformation compared to the more prevalent economic or food-related themes.

Turning to the mapping of individual policies to the eight HS aspects, we attempt to display the intensity of associations for each of the 320 policy-aspect pairs in Figure 4. This heatmap presents a gradient-based view of coverage percentages for each HS Aspect in the EU Green Deal corpus. Darker shades of red or orange correspond to

higher similarity scores, while paler yellows indicate lower coverage (near or below the area of 10%)[2]. Vertical rows list individual EU policy documents (labelled by short references), and the HS Aspects are placed along the horizontal axis (the full set of policy names and acronyms can be found in Table A2 in the Appendix). This continuous colour scale provides a more nuanced impression of each aspect's weight, exposing subtle differences—even within the same overall coverage band—that the simpler three-color palette may not capture. Documents are listed along the vertical axis, while the eight HS Aspects (Community, Economic, Environmental, Food, Health, Personal, Political, and Technology Security) appear horizontally. By scanning rows or columns, one can quickly spot which HS Aspects figure prominently or minimally in each text, providing a rapid comparative view across the policy corpus.

[2] Cutting points are considered based on the quartiles of the overall distribution of similarity scores.

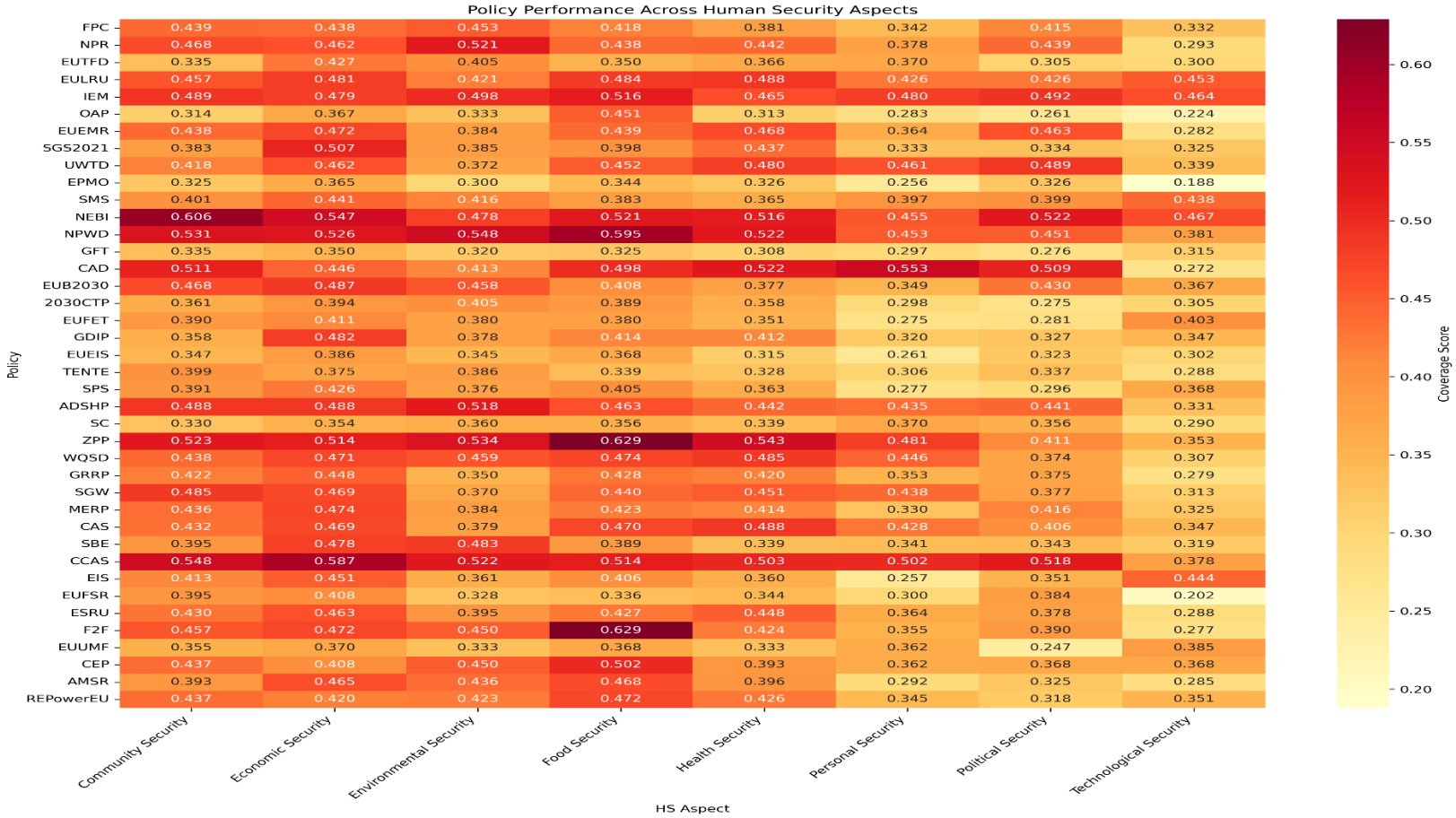

Figure 4. Heatmap for Human Security Aspects Coverage (Semantic Similarity) in EU Green Deal Policies

Source: Authors' Calculations (Warmer/darker colours signal higher coverage percentages, and lighter hues denote lower coverage, allowing finer-grained comparisons across documents and aspects)

Some notable stylized facts emerge for the linkages of EGD policies for each of the aspects, specifically:

- The three highest-scoring policies for Economic Security are the Climate Change Adaptation Strategy, the New European Bauhaus Initiative and the Nature Protection Working Document. Especially the former indicates that climate adaptation, although related to environmental security in principle, is inextricably linked to the functioning of economic systems and the capacity of local economies to anticipate, adapt and transform in the face of increasing climate standards (Cools et al., 2024, UNEP, 2024).

- For the Food Security Aspect, the top scoring policies are the Farm to Fork Strategy and the Zero Pollution Plan, which constitute the highest scores in the overall distribution. Whereas the F2F is the flagship EGD initiative to transform food systems and embolden food security, the ZPP is centred on the ambition for a non-toxic environment and moving towards a more connected and integrated pollution monitoring framework across air, water, and soil. Nonetheless, our analysis underscores the policy's impact on issues pertaining to food security recognizing the prominent role of agriculture in reducing pollution and supporting sustainable food production. The ZPP in essence provides a comprehensive framework to monitor the progress in the areas highlighted by the F2F, hence is almost equally important for food security in the EU.

- The Community Security Aspect is matched with the New European Bauhaus Initiative and the Climate Change Adaptation Strategy, showcasing the relatedness to several Material Issues. The New European Bauhaus (NEB) Initiative promotes community security by tackling economic inequality, enhancing social cohesion, and ensuring equal access to services through inclusive urban planning. The Climate Change Adaptation Strategy aims to support local governments in building environmental and socio-economic resilience, a process which requires sound governance structures, high levels of trust and efficient access to key services. All these are integral parts of the material issues covering Trust & Tolerance and Equal Access to Services. Having said that, building resilience through targeted adaptation actions significantly enhances Inclusion & Social Cohesion, which is one of the material issues related to this specific HS aspect.

- The top policies for Environmental Security are, Nature Protection Regulation, the Zero Pollution Protection Plan and the Climate Change Adaptation Strategy n signifying that these policies elevate environmental topics to a more central position. The aforementioned policies match with the Material Issues of the Aspect. The Nature Protection Regulation focuses on ecosystem restoration, aiming to improve habitat conditions and biodiversity across terrestrial, coastal, freshwater, and marine environments. Emissions & Mitigation efforts are central to the EU's environmental policies, with ambitious targets set to reduce emissions by at least 55% by 2030, issues directly addressed under the Zero Pollution Protection Plan. Finally, climate adaptation is one of the five material issues characterizing environmental security in our framework, validating the strong linkages to the Climate Change Adaptation Strategy.

- Health Security is best addressed through the Zero Pollution Plan, the Nature Protection Working Document and the Clean Air Directive addressing health considerations at very high levels of textual emphasis. The two highest scoring documents across the sample of 40 policies are also included among the three most relevant to environmental security. This finding corroborates the argument for a holistic approach on human security and its intertwined aspects. It also highlights the strong bond of environmental protection (through mitigation and adaptation actions) with health outcomes across the globe. Integrating environmental aspects and biodiversity protection is, therefore, pivotal in any policy attributed to tackling health insecurity.

- Political Security is associated with the New European Bauhaus Initiative and the Climate Change Adaptation Strategy. Nonetheless, as mentioned in the previous section, there is a low average association score across the 40 selected policies, with just 6 documents recording a high (above 0.45) relevance score. The New European Bauhaus Strategy emerges as the most relevant as it touches upon the material issue of political stability, which is an envisioned outcome of the formation of beautiful, sustainable, and inclusive places, products, and ways of living stemming from the strategy document. In a similar vein, resilient societies provide the foundation of participatory approaches, trust and political stability, which partially explains the relevance with the Climate Change Adaptation Strategy document.

- Personal Security is also strongly associated with the Climate Change Adaptation Strategy, mainly because Disaster Preparedness is one of the five

material issues identified by the analysis as integral conceptual parts of the aspect. The highest similarity score for Personal Security is documented for the Clean Air Directive, surpassing the second-ranking document by 5 basis points. This association is in accordance with recent empirical studies which directly link air pollution and degradation to elevated crime activity (Bondy et al., 2020; Hermstadt and Muelhanger, 2015).

- Finally, even though the Technological Security Aspect is underrepresented in the Green Deal Policy Documents, its highest-scoring policies (and the only ones with a score in the top quartile of the overall score distribution) are the New European Bauhaus Initiative and the Industrial Emissions Modernization. The former strongly emphasises the digital transition as a key enabler for achieving its goals of creating beautiful, sustainable, and inclusive places and ways of living. In this aspect it touches upon the material issue of digitalization underpinning the aspect of technological security. Having said that, the Industrial Emissions Modernization has the overarching objective to improve the effectiveness, efficiency, and scope of regulating industrial emissions in direct relation to the modernisation of the Industrial Emissions Directive (IED) and the European Pollutant Release and Transfer Register (E-PRTR) Regulation. This hinges upon the technological upgrade of EU industry infrastructure and, hence, relates to the material issues of Digitalization and National Innovation Systems & Intellectual Property Rights.

We then move to focus on high association of policies and HS aspects, defined as a similarity score exceeding 0.45, which is the cut-off point for the top quartile in the overall score distribution. Our findings indicate that almost one in two (52.5%) EGD policy documents record a high association with maximum one aspect. One in five policies poses strong association with just one HS aspect, indicating a high degree of concentration in the HS context inherent in these policy initiatives. By contrast, two policy documents' contexts are highly correlated with all 8 HS aspects, namely the Industrial Emissions Modernization and the New European Bauhaus Initiative.

The Industrial Emissions Modernization Policy strengthens human security by ensuring cleaner industries, healthier communities and sustainable economies. It promotes the creation of green jobs and the reduction of pollution-related diseases. The policy also enhances food security by preventing contamination of the food system. The adoption of stronger regulations enhances personal and political security,

protecting individuals from industrial hazards while promoting transparency and accountability. It provides environmental security by curbing emissions and conserving resources, while digital innovation ensures technological security through real-time monitoring. Finally, the prevention of environmental discrimination and the strengthening of resilience to climate challenges are linked to the community security aspect.

Having said that, it is to be noted that the policy has been updated and replaced by the Industrial and Livestock Rearing Emissions Directive (IED 2.0), which took effect in August 2024[3]. IED 2.0 tightens environmental regulations by enforcing lower emissions limits for industries and livestock farming. It also expands coverage to emerging sectors, like battery manufacturing and metal mining, and strengthens compliance through tougher enforcement. The updated directive accelerates industrial decarbonization and technological innovation and supports Europe's shift to sustainable industry while protecting public health, biodiversity, and climate stability.

The New European Bauhaus (NEB) Initiative, on the other hand, bridges sustainability, aesthetics and inclusivity to transform urban spaces and daily life. It supports economic security by promoting circular economies, job creation and affordable housing, whereas health security is addressed through the creation of eco-friendly and accessible living environments that enhance well-being. Additionally, NEB promotes inclusivity and civic engagement strengthening the political security aspect, whilst personal security is enhanced through safer, community-driven urban designs. The initiative also promotes sustainable urban agriculture and the adoption of green spaces, as well as prioritising the mitigation of climate impacts, preservation of biodiversity, and ensuring resilient infrastructure, further enhancing food and environmental security as a result. Finally, the inclusion of cultural heritage and social cohesion provisions is directly linked to community security, all the while integrating technological security through smart, energy-efficient solutions that drive sustainable progress.

Taken together, these results suggest that, although HS as a broad frame resonates throughout the EU Green Deal body of documents, specific HS Aspects receive emphasis depending on each policy's thematic scope. Economic and Food-related themes are among the most frequently and robustly covered, potentially reflecting the

[3] Details can be found in https://environment.ec.europa.eu/topics/industrial-emissions-and-safety/industrial-and-livestock-rearing-emissions-directive-ied-20_en

Green Deal's broad ties to economic transitions and agricultural reforms. Meanwhile, Technology Security's lower median indicates that digitization or cybersecurity concerns are sometimes overshadowed by more prominent environmental or economic imperatives—yet, in a handful of documents, digital transformation emerges as a key priority. Having said that, the presence of certain policy documents among the highest ranks of association for more than one aspect indicates the intricate relationship between the basic tenets of human security and underlines the importance of holistic policy strategies to address its core issues.

5.2 Alignment of Human Security Aspects with Sustainable Development Goals

This subsection presents the results of the method described in 4.4 about the alignment between the eight Human Security aspects and the 17 SDGs. The analysis is based on a matrix representation that highlights the intensity of the relationship between each HS aspect and SDG. The scores in the matrix (Table 2) capture how well policies addressing HS aspects also contribute to specific SDGs. Higher scores indicate stronger connections, while lower scores point to areas where alignment is less pronounced.

Aspect	SDG 1	SDG 2	SDG 3	SDG 4	SDG 5	SDG 6	SDG 7	SDG 8	SDG 9	SDG 10	SDG 11	SDG 12	SDG 13	SDG 14	SDG 15	SDG 16	SDG 17
Economic Security	0,2	1,6	0,9	0,3	0,4	2,5	4,0	0,9	3,0	0,3	2,7	4,6	2,1	2,6	3,8	1,9	4,0
Health Security	0,2	1,5	0,9	0,2	0,3	2,5	3,6	0,8	2,5	0,3	2,4	4,3	1,9	2,3	3,6	1,8	3,8
Political Security	0,2	1,3	0,8	0,2	0,3	2,2	3,2	0,8	2,3	0,2	2,3	4,0	1,7	2,2	3,4	1,7	3,4
Personal Security	0,2	1,2	0,8	0,2	0,3	2,3	3,1	0,7	2,2	0,2	2,4	4,0	1,7	2,0	3,2	1,6	3,3
Food Security	0,2	1,8	0,9	0,3	0,3	2,7	3,7	0,8	2,6	0,3	2,7	4,6	2,0	2,5	3,8	1,9	4,0
Environmental Security	0,2	1,5	0,9	0,2	0,3	2,4	3,6	0,8	2,6	0,3	2,5	4,4	1,9	2,4	3,7	1,7	3,5
Community Security	0,2	1,5	0,9	0,3	0,3	2,4	3,6	0,9	2,7	0,3	2,6	4,4	2,0	2,5	3,7	1,9	3,9
Technology Security	0,2	1,1	0,7	0,2	0,3	1,8	2,9	0,7	2,2	0,2	2,2	3,5	1,5	2,0	2,7	1,6	2,9

Table 2 Matrix Representation of HS aspects and their alignment with SDGs.

Source: Authors' elaboration.

Table 2 provides an overview that helps in the identification of both the synergies and gaps in how HS dimensions are incorporated into global sustainability efforts. It provides a quantitative overview of the alignment scores between eight Human

Security aspects (rows) and the 17 SDGs (columns). The scores, calculated using semantic and numerical methods, indicate the intensity of the relationship between each HS aspect and SDG. Higher scores (darker blue shading) represent stronger alignments, while lower scores (lighter shading) highlight weaker connections. For example, "Economic Security" shows strong alignment with SDG 7 (Affordable and Clean Energy) and SDG 12 (Responsible Consumption and Production), while weaker connections are observed with SDG 1 (No Poverty) and SDG 4 (Quality Education). This visual representation helps identify areas where policies effectively integrate HS and SDG objectives, as well as gaps that may require attention in future strategies. Such insights are critical for policymakers aiming to design integrated strategies that address both security and sustainability objectives.

5. Discussion

The discussion below, aims to interpret the key patterns observed in the alignment scores, highlight potential gaps, and identify areas for policy improvement. By examining the intensity of these relationships, we gain insights into how well current policy frameworks address the multidimensional challenges of human security while advancing sustainability objectives. Overall, the findings underscore the need for more integrated approaches, ensuring that policies are not only aligned with the SDGs but also effectively address vulnerabilities across all HS dimensions. More specifically:

- **Economic Security** appears as a key factor in driving progress towards SDG 7 (Affordable and Clean Energy), SDG 12 (Responsible Consumption and Production), and SDG 9 (Industry, Innovation, and Infrastructure). These strong connections highlight the focus on clean energy access, sustainable production, and infrastructure development. However, the relatively weaker links with SDG 1 (No Poverty) and SDG 4 (Quality Education) suggest that more effort is needed to address critical socio-economic issues like poverty reduction and educational access, which are fundamental to inclusive growth.
- **Health Security** also demonstrates strong alignment with SDG 7 and SDG 12, emphasizing the importance of energy access and sustainable practices in fostering public health outcomes. Moderate alignment with SDG 15 (Life on Land) further reflects the ties between health and ecosystem preservation. On the other hand, weaker connections with SDG 4 (Quality Education) and SDG 10 (Reduced Inequalities) point to missed opportunities in integrating health initiatives into education and equity-driven policies—key areas that significantly influence public health.

- **Political Security** stands out with its robust ties to SDG 12 and SDG 7, showing how governance can support sustainability and energy transitions. It also has moderate connections with SDG 16 (Peace, Justice, and Strong Institutions) and SDG 9, which aligns well with its focus on justice, governance, and accountability. However, the weaker alignment with SDG 3 (Good Health and Well-Being) and SDG 5 (Gender Equality) suggests a gap in addressing health and gender-related challenges through political governance frameworks.
- **Personal Security** is most closely tied to SDG 12 and SDG 11 (Sustainable Cities and Communities), emphasizing efforts to reduce vulnerabilities in urban and production systems. It also has moderate connections to SDG 7 and SDG 15, highlighting its link to energy access and land sustainability. However, weaker ties with SDG 10 and SDG 6 (Clean Water and Sanitation) reveal areas where equity and access to basic services could be better integrated into strategies for personal security.
- **Food Security** shows strong connections with SDG 9, SDG 12, and SDG 7, showcasing the role of industrial innovation, sustainable production, and energy transitions in ensuring food availability and security. Moderate alignment with SDG 11 reflects its relevance to urban food systems. However, the weaker links to SDG 4 and SDG 5 reveal a gap in incorporating education and gender equity into food security strategies, areas that are crucial for long-term resilience and inclusion.
- **Environmental Security** demonstrates its strongest alignment with SDG 7, SDG 12, and SDG 13 (Climate Action), emphasizing the importance of energy efficiency, sustainable practices, and climate resilience. Moderate alignment with SDG 15 underscores its focus on biodiversity and ecosystem conservation. Nonetheless, weaker connections with SDG 4 and SDG 6 highlight the need for better integration of environmental security into education and water management policies, which are foundational to sustainable development.
- **Community Security** aligns strongly with SDG 12 and SDG 11, emphasizing the importance of sustainable urban development and fostering social cohesion. Moderate ties to SDG 9 and SDG 7 reflect its links to industrial and energy systems. However, the weaker connections with SDG 10 and SDG 4 suggest opportunities for improving equity and educational access in community-focused policies, which could further enhance social resilience.
- **Technological Security** is most closely tied to SDG 7, SDG 9, and SDG 12, demonstrating its critical role in driving innovation, advancing energy

transitions, and promoting sustainable production. Moderate alignment with SDG 17 (Partnerships for the Goals) highlights its potential for fostering collaborative technological solutions. However, weaker connections with SDG 10 and SDG 15 suggest that issues like equitable access to technology and the ecosystem impacts of digital innovations need greater attention.

The policies of the EGD are intrinsically linked to the SDGs and contain a bevy of initiatives aiming to achieve sustainable transformation in Europe. The corpus of policies, 40 of which are analyzed in this study, cover a broad range of issues spanning from climate neutrality to environmental and socioeconomic resilience, sustainable agri-food systems and improved health outcomes. In this sense, it is safe to concur that the essence of EGD policies caters to HS by tangibly aiming to improve the well-being of the people. Some policies are revealed to touch upon diverse aspects of HS, corroborating the interlinkages between them and the holistic nature of the EGD and its policy objectives. The mapping exercise presented in this study enables policymakers to consider the human security tenets covered by the EGD policies and enhance them by identifying the gaps and synergies across different HS aspects. This is increasingly important, for example, for the interplay of environmental and economic security, as highlighted by the need to couple the green transition with industrial competitiveness in the EU (Draghi et al., 2024; European Commission, 2025).

Nonetheless, HS places the individual at the forefront, whereas EGD policies and other initiatives serving the SDGs target primarily the nation state. The human security approach would emphasize on the outcomes for vulnerable populations, as these suffer from cascading insecurity in the face of climate degradation, economic decline and violent conflict (Remling, 2020). A substantial enhancement in policymaking is the systematic integration of fundamental rights into all stages of climate policy development, implementation and evaluation (European Union Agency for Fundamental Rights, 2025). Moreover, as the EGD entails a broad set of transformative policies that aim to largely restructure economic activity, caution should be applied to the cascading risks for economic, personal and community security from these shifts (Sanchez-Reaza et al., 2023). To this end, the EGD policy umbrella should be bolstered with robust social protection policies and active labour market programs are needed to support affected workers and strengthen social safety nets. Finally, policies moving beyond the national context embodied in the SDGs are

warranted to achieve a place-based approach to the green transformation, placing distinct people and communities at the epicentre.

A meaningful integration of the HS and SDG aspects involves the development and monitoring of key metrics for HS performance. As a starting point, we have introduced the material issues related to each HS aspect in this study. Identifying commonly accepted and measurable metrics based on cross-country indicators will enable the monitoring of national progress in HS *in tandem* with the SDGs. In addition, despite the two notions not being identical, a non-negligible share of the indicators that shape the 169 sub-targets of the 17 SDGs can be included in the HS measurement development (Sachs et al., 2024).

6. Conclusion

Human Security and the Sustainable Development Goals share a common moral and strategic purpose: ensuring that all individuals can thrive, free from existential threats and systemic injustices, within a healthy, stable environment. By integrating HS perspectives into SDG implementation and vice versa, policymakers can discover novel synergies that enhance both immediate protection and long-term resilience.

While the SDGs establish a broad framework for global progress, integrating HS provides a crucial lens through which policies can address vulnerabilities and systemic risks in a more targeted and effective manner. Our research emphasizes the need for policy frameworks that simultaneously promote sustainability and safeguard individuals from economic, environmental, health, and political insecurities. To achieve this, we employed a structured methodology that deconstructs Human Security into eight key aspects—economic, food, health, environmental, personal, community, political, and technological security. These aspects were further broken down into 41 Material Issues, which serve as thematic indicators of HS challenges and opportunities. By defining HS through this granular approach, we created a robust foundation for mapping SDG-related policy documents against concrete security dimensions.

The machine learning-based methodology presented in this chapter offers a practical pathway to clarify the HS-SDG nexus. Using a Machine Learning-driven semantic analysis, we systematically assessed 40 key policy documents from the EU Green Deal to determine their alignment with HS concerns. By leveraging transformer-based

embeddings and similarity scoring, our model identified the extent to which each policy document addressed specific HS aspects and material issues. Our cutting-edge approach has enabled us to uncover the salience of each HS aspect embedded in each of these 40 policy frameworks.

Our analysis revealed that Economic Security leads in coverage across EGD policies, followed by Food Security and Community Security while Technological Security showed lower representation. Environmental security does not stand out in the textual analysis of the EGD documents, however critical aspects of Food, Community and Personal Security are inherently linked to the environmental outcomes envisioned in most of the policies in the corpus. The mapping between HS aspects and SDGs highlighted strong alignments, particularly between Economic Security and SDGs 7, 12, and 9, but also identified gaps, such as weaker connections with SDGs 1 and 4. The EGD framework addresses key HS challenges and each one of its broad range of policies tangibly support more than one HS aspects. Nonetheless, acknowledging the shortcomings of nationally designed policies and goals, underlines the need to enhance the policy set with an approach centered on individual freedom of want and freedom of need. Our findings underscore the need for more integrated policy approaches that better address vulnerabilities across all HS dimensions through the provision of social safety nets and place-based interventions.

Mapping the HS similarity scores of the EGD policies with their respective associations to the 17 SDGs as identified by Koundouri et al. (2024) through matrix multiplication allows us to gauge the relative strength of the relationship between a specific HS aspect and a given SDG. All aspects of HS are significantly correlated with SDG 12 (Responsible Consumption and Production) and SDG 15 (Life on land). The elicited similarities are drawn using the EGD policy documents, hence underscore the potential synergies to be harnessed by the effective implementation of these policies in promoting both SDGs and aspects of HS. By contrast, low association scores point to policy areas where initiatives catering to specific SDGs should also consider the intricacies of targeting individual needs and the specificities of vulnerable population groups. Our analysis provides a data-driven framework for evaluating how policy initiatives simultaneously support both human security and sustainable development goals. Furthermore, it identifies specific areas where policy integration could be strengthened to better serve both agendas. Finally, it demonstrates the value of machine learning techniques in policy analysis, offering a scalable approach for assessing policy alignment with complex, interconnected global frameworks. These insights provide policymakers with an evidence-based approach to designing

comprehensive strategies that address both immediate security concerns and long-term sustainability goals. By ensuring that SDG policies proactively enhance Human Security, we can move closer to an equitable and resilient global future.

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Appendix

Table A1: List of Human Security Aspects and their respective Material Issues

Aspect	Material Issue
Economic Security	1.1 Standard of Living 1.2 Employment Conditions 1.3 Public Finances 1.4 Cost of Essential Goods and Services 1.5 Financial System Development 1.6 Entrepreneurship and Small Business Development 1.7 Trade & Openness
Health Security	2.1 Livelihoods 2.2 Children's Wellbeing 2.3 Health Services 2.4 Economic and social conditions supporting health 2.5 Healthcare facilities & Infrastructure
Political Security	3.1 Democratic Governance 3.2 Quality of Institutions 3.3 Freedom of Speech & Civic Participation 3.4 Rule of Law 3.5 Freedom of Movement 3.6 Civil & Political Rights
Personal Security	4.1 Violent Conflict 4.2 Human Rights Violations 4.3 Crime and Gender-based Violence 4.4 Legal Protection 4.5 Disaster Preparedness
Food Security	5.1 Access, Affordability and Social Safety Nets 5.2 Food Utilization & Dietary Patterns 5.3 Sustainable and Efficient Food Systems 5.4 Obesity & Food related diseases
Environmental Security	6.1 GHG Emissions & Mitigation 6.2 Climate Awareness & Policies, Environmental Education, and Corporate Sustainability Practices 6.3 Biodiversity 6.4 Climate Adaptation

	6.5 Water Resources
Community Security	7.1 Economic Inequality 7.2 Inclusion - Social Cohesion 7.3 Trust & Tolerance 7.4 Equal Access to Services 7.5 Gender Inequality
Technological Security	8.1 Access to Technology 8.2 National Innovation Systems & Intellectual Property Rights 8.3 Cybersecurity 8.4 Digitalization

Table A2 Final subset of policy documents for detailed analysis. Authors' elaboration.

Policy Name	Policy Acronym	Policy Name	Policy Acronym
Fisheries Policy Communication	FPC	**TEN-T Expansion**	TENTE
Nature Protection Regulation	NPR	**Sustainable Products Standard**	SPS
EU Taxonomy & Finance Directive	EUTFD	**Anti-Deforestation & Soil Health Proposal**	ADSHP
Energy Labelling Regulation Update	EULRU	**Sustainability in Chemicals**	SC
Industrial Emissions Modernization	IEM	**Zero Pollution Plan**	ZPP
Organic Action Plan	OAP	**Water Quality Standards Directive**	WQSD
EU Electricity Market Reform	EUEMR	**Goods Repair Rules Proposal**	GRRP
Sustainable Growth Strategy 2021	SGS2021	**Save Gas for Winter**	SGW
Urban Wastewater Treatment Directive	UWTD	**Marine Ecosystems Restoration Plan**	MERP
Energy Price Mitigation Options	EPMO	**Circularity in Automotive Sector**	CAS
Smart Mobility Strategy	SMS	**Sustainable Blue Economy**	SBE
New European Bauhaus Initiative	NEBI	**Climate Change Adaptation Strategy**	CCAS
Nature Protection Working Document	NPWD	**European Industrial Strategy**	EIS
Green Freight Transport	GFT	**EU Financial System Reform**	EUFSR
Clean Air Directive	CAD	**Effort Sharing Regulation Update**	ESRU
EU Biodiversity 2030	EUB2030	**Farm to Fork Strategy**	F2F
2030 Climate Target Plan	2030CTP	**EU Urban Mobility Framework**	EUUMF
EU Fisheries Energy Transition	EUFET	**Circular Economy Plan**	CEP
Green Deal Industrial Plan	GDIP	**Agri-food Marketing Standards Revision**	AMSR
EU Energy Integration Strategy	EUEIS	**REPowerEU Energy Plan**	REPowerEU