



Translation Quality Assessment of Sustainable Development Goals (A Cognitive Approach)

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ABSTRACT

This paper examines the cognitive processes involved in the Arabic translation of the Sustainable Development Goals (SDGs) and how these translations impact the interpretation of ecological concepts. Using Gavins' (2007) Text World Theory, which explores the mental models constructed by readers based on linguistic elements, the research investigates how the Arabic translations of the SDGs activate mental representations within their discourse world. The SDGs' discourse in Arabic is cognitively organized around four key dimensions: Participants, Place, Time, and Sensory Inputs. These dimensions illustrate how ecological issues are framed and how they influence both global policymaking and individuals' cognitive engagement with sustainability in the Arabic-speaking world. The analysis specifically focuses on assessing the quality of the Arabic translation, examining how effectively it conveys the intended meanings and how it shapes cognitive understanding of ecological concerns.

Keywords: Cognitive analysis, stylistic features, SDGs, text world theory.



Introduction:

Human activities, both intentional and unintentional, are the primary causes of ecological imbalances on Earth, resulting in severe environmental degradation. These activities harm the air, soil, and water, intensifying the disruption of the planet's natural systems. Climate change, exacerbated by irresponsible human actions, continues to worsen. Language plays a crucial role in how we understand and address environmental crises. It serves as a tool for governments, organizations, and individuals to advocate for ecological protection, shaped by their unique cultural and contextual perspectives. According to Hannah and Mahlberg (2023), language is a vital tool in addressing the climate crisis, as it frames and constructs our perception of reality.

Texts, including those related to environmental issues, are dynamic and interpreted through cognitive processes influenced by factors such as culture, identity, and geography. This study examines the cognitive aspects of the Arabic translation of ecology-related texts, focusing on whether the meaning and message of the English source text (EST) are accurately conveyed in the Arabic target text (ATT). Specifically, it analyses whether the translation maintains the intended cognitive content and if both versions align in their interpretation of ecological issues.

1. Research Problem

Human beings process discourse cognitively to achieve understanding by forming mental representations, starting with image schemas and progressing through domain mappings, frames, and retrospection, as proposed by Kövecses (2020). Gavins (2007) further explains that these representations are activated through discourse worlds, text-worlds, and sub-worlds. Such cognitive processes are essential for interpreting specialized texts, like those related to ecology, which present significant linguistic challenges, particularly in translation. When ecological content is globalized, translation fidelity becomes a key issue. Translating ecological texts into Arabic presents unique cognitive and linguistic challenges, including whether the Arabic



version accurately conveys the cognitive content of the original. The main concern is whether the Arabic target text faithfully reflects the source text's meaning and understanding or deviates in some way. Additionally, translating new or specialized ecological terms raises the question of whether they can be directly translated or require adaptation. These cognitive and translation challenges are critical in evaluating the quality of Arabic translations of ecological texts.

2. Objectives of the Study

This study examines the cognitive and translation issues in assessing the Arabic translation of ecological texts. It applies Gavin's Text World Theory (2007) to evaluate whether the Arabic target text (TT) faithfully mirrors the cognitive content of the English source text (ST). The study focuses on how meanings are cognitively processed through the choice of linguistic elements, considering the contexts and the translator's decisions. By analysing the cognitive content of the translated text, the study investigates whether the translation preserves the intended meaning and whether the translation is faithful in terms of structure, wording, and content. The aim is to assess translation quality by determining if the Arabic version accurately reflects the cognitive content of the source text.

3. Research Questions

The study attempts to answer the following questions:

- 1- Which cognitive and linguistic tools are most effective for analyzing eco-themes in UN ecological texts?
- 2- How reliable are the UN Arabic translations of SDGs in terms of accurately conveying cognitive content, and to what extent should they be considered impeccable?

4. Research Methodology

This study utilizes a bilateral approach for Translation Quality Assessment (TQA), combining cognitive and qualitative analysis to ensure reliable, valid, and objective results (Baker & Egbert, 2019). The bilateral method involves: i) a cognitive approach using Text World Theory by Gavins (2007) and a qualitative linguistic analysis of

both English and Arabic texts, with potential alternative translations proposed to enhance fidelity and accuracy. This approach addresses the limitations of the UN Arabic translation and qualitative methods by integrating cognitive analysis to produce a comprehensive evaluation.

The theoretical framework draws on Gavins' (2007) Text World Theory to explore the cognitive content within the linguistic units, alongside Stibbe's eco-linguistic model (2015) to examine the stylistic features in the ecological context. The analysis operates on both macro and micro levels. At the macro level, it investigates the discourse world considering how social, cognitive, and ideological elements influence the construction of mental representations. At the micro level, it studies text-world and sub-worlds. This focus shifts to detailed analysis of the cognitive content in the English Source Text and Arabic Target Text, incorporating cognitive offloading of meaning to assess how the Arabic version of SDGs is communicated.

Ultimately, the study assesses whether the Arabic translation faithfully conveys the cognitive content of the original text, and if necessary, proposes revisions to improve the translation's alignment with the intended message, ensuring a more accurate and authentic rendering of ecological discourse.

5. Corpus

The corpus of this paper consists of 17 Sustainable Development Goals (SDGs) retrieved from the official United Nations (UN) website. These 17 SDGs provide a rich foundation for a comprehensive analysis that addresses both micro and macro linguistic dimensions. Drawing on these examples, the study examines the interaction between cognitive and semantic elements, focusing on how subtle meanings are conveyed and preserved within the linguistic structure of the SDGs. The breadth and depth of the corpus not only highlight its relevance to critical global issues such as climate change and sustainability but also emphasize its significance in analysing the semantic content within the context of UN discourse. Additionally, ecological texts are scrutinized within the stylistic analysis, further enriching the investigation. This

robust global SDGs serve as a key resource for achieving the study's cognitive and linguistic objectives.

6. Cognitive Analysis

6.1. A Cognitive Mapping of the SDGs

In the application of Gavin's (2007) Text World Theory to the Sustainable Development Goals (SDGs), the concept of the Discourse World serves as a critical cognitive framework for understanding how the SDGs are constructed within temporal, spatial, and participatory contexts. According to Text World Theory, the Discourse World encompasses both the communicative environment in which the discourse unfolds and the mental representations it activates in the audience. Within the SDGs, this world is shaped by four key dimensions: Participants, Place, Time, and Sensory Inputs. These dimensions not only illuminate how ecological issues are framed but also demonstrate how they influence global policymaking and shape individuals' cognitive engagement with sustainability challenges.

6.1.1. Participants and Communicators: Countries and Governments as Agents

Central to the Participants in the SDGs are the countries, which function as both the communicators and recipients of the goals. In the English version of the SDGs, countries and governments are frequently presented as the primary agents driving action. These nations are portrayed as active contributors to the global sustainability discourse, tasked with implementing the SDGs through national policies, partnerships, and international collaboration. Their role transcends that of passive recipients of global initiatives; they are depicted as key decision-makers, influencers, and collaborators in addressing ecological crises.

The role of communicators or agents is crucial in transforming collective goals into tangible commitments. Represented by government bodies, international organizations, and non-governmental actors, communicators are responsible for conveying the SDGs and the necessary actions to a wider audience, thereby constructing shared meaning across diverse national and cultural contexts. Whether

they are politicians, scientists, activists, or institutions, these communicators frame the SDGs to clearly highlight the responsibility of countries to both contribute to and benefit from global ecological efforts. Through this process of communication, cognitive structures are activated, positioning countries as integral members of a global network of agents working toward a shared ecological future.

6.1.2. Place: The Geospatial Context

In the SDGs, the spatial dimension of the Discourse World is intricately linked to both national and global contexts, where countries are entrusted with addressing ecological challenges. Within the English version of the SDGs, places are not only defined geographically—such as countries, regions, or cities—but are also framed in terms of global partnerships and shared spaces for ecological governance. For example, countries are depicted as active participants in frameworks like the Paris Agreement on climate change or the United Nations Framework Convention on Climate Change (UNFCCC), where the global commons are conceptualized as spaces requiring urgent cooperation.

This spatial mapping extends to concepts such as climate-resilient development or low-carbon economies, which demand transformation within specific geographical and socio-economic contexts. The discourse surrounding financing in the SDGs further connects countries' roles to regional and global economic structures, such as international finance mechanisms and climate financing initiatives. Thus, the cognitive structure of "place" in the SDGs is not fixed but is instead dynamic, continually evolving as the roles of countries in global sustainability efforts are redefined.

6.1.3. Time: Temporal Dimensions of Ecological Action

The Time component within the Discourse World reflects the progression of ecological action across past, present, and future dimensions. The past is represented by the recognition of ecological challenges that have already manifested, such as climate change, biodiversity loss, and environmental degradation—issues that are

prominently acknowledged in the SDGs and other UN ecological texts within the scope of this study, highlighting the need for urgent action.

The present, particularly in the context of financing, policymaking, and calls for action, frames ecological challenges as pressing issues that require immediate intervention. This reflects a cognitive understanding that the crisis is ongoing and that current efforts—especially in terms of financial support and legislative measures—are crucial in mitigating future environmental risks.

The future aspect of time is embedded throughout the SDGs, particularly in goals related to climate-resilient development and low greenhouse gas emissions. The language used in these goals inherently suggests forward-looking imperatives. There is a notable cognitive shift in the ecological discourse, positioning future generations as critical stakeholders. This links present ecological actions with the ability of nations to achieve environmental targets, emphasizing climate-resilient development that is designed to withstand the impacts of climate change. This temporal framing encourages nations and stakeholders to prioritize long-term ecological investments, aligning immediate actions with projected global ecological outcomes.

6.1.4. Sensory Inputs: The Cognitive Engagement with Ecological Narratives

The Sensory Inputs within the Discourse World of the SDGs play a crucial role in fostering cognitive engagement with ecological issues. These inputs, which encompass both direct sensory experiences—such as changes in temperature, sound, and air quality—and more abstract concepts like dreams, intentions, and beliefs, are instrumental in shaping how individuals and nations process and respond to ecological information. In addition, more abstract inputs like dreams and beliefs contribute to the aspirational narrative of the SDGs, motivating global populations to envision a future where environmental sustainability and development are intrinsically linked.



Here are the 17 SDGs:

	English	Arabic
	Sustainable Development Goals (SDGs)	أهداف التنمية المستدامة
SDG1	No Poverty	القضاء على الفقر
SDG2	Zero Hunger	القضاء التام على الجوع
SDG3	Good Health and Well-Being	الصحة الجيدة والرفاه
SDG4	Quality Education	التعليم الجيد
SDG5	Gender Equality	المساواة بين الجنسين
SDG6	Clean Water and Sanitation	المياه النظيفة والنظافة الصحية
SDG7	Affordable and Clean Energy	الطاقة النظيفة وبأسعار معقولة
SDG8	Decent Work and Economic Growth	العمل اللائق ونمو الاقتصاد
SDG9	Industry, Innovation, and Infrastructure	الصناعة والابتكار والهياكل الأساسية
SDG10	Reduced Inequality	الحد من عدم المساواة
SDG11	Sustainable Cities and Communities	المدن والمجتمعات المستدامة
SDG12	Responsible Consumption and Production	الاستهلاك والإنتاج المسؤولان
SDG13	Climate Action	العمل المناخي
SDG14	Life below Water	الحياة تحت الماء
SDG15	Life on Land	الحياة في البر
SDG16	Peace, Justice, and Strong Institutions	السلام والعدل والمؤسسات القوية
SDG17	Partnerships for the Goals	عقد الشراكات لتحقيق الأهداف

Table (3-1) SDGs in English and Arabic

Cognitive Analysis (CA) according to Gavins' TWT can be as follows:

	Discourse World	
Participants	Humans	Governments People
Place	Planet	States
Time	Eternally	From now on
Sensory inputs	Smell – sound – temperature Dreams – intentions – beliefs	Saving planet Protect environment Preserving nature
	Text World	
Characters	Enactors	You – I – All the humans
World builders	Nouns (Gerunds and nouns)	gender – equality – sanitation



		– energy – work – growth – industry - innovation – infrastructure – inequality – consumption – production – action - justice – institutions – partnerships – goals cities –communities – water - land
	Place (locative nouns)	
	Entities (abstract noun)	Poverty – hunger – health – well-being – education – life – peace
	Demonstratives	Below – on - for
	Definite articles	The
	Personal pronouns	None
Function advancers	Actions (Causes – Results)	SDGs
	Sub-World	
Deictic	Time – space – entity	(now – future) land – water – cities – communities
Epistemic	Adjectives	Good – quality – strong – climate – sustainable – decent – clean
Attitudinal	Boulomaic (modality)	(goals to be achieved)
	Purpose	Save the planet
Deontic	Degree of obligation	(imperatives)

Table (3-2) CA of SDGs

Commentary:

The Discourse World of the SDGs is cognitively structured through the interaction of key components: Participants, Place, Time, and Sensory Inputs. Participants, which include humans, governments, and societies, play an active role in shaping and responding to the ecological discourse. The concept of Place is envisioned as the planet, encompassing the nations engaged in ecological action. Time is framed in two dimensions: as an ongoing, long-term concern, highlighting the persistence of environmental issues, and as an urgent call for immediate action to address ecological challenges. Sensory Inputs include tangible experiences such as changes in smell,

sound, and temperature that raise awareness of environmental issues, as well as more abstract elements like dreams, intentions, and beliefs, which reflect aspirations to protect the planet and preserve nature. This cognitive framework maps how the SDGs position humanity and nations within a temporal and spatial context, urging collective efforts to ensure a sustainable future for the planet.

Gavins' (2007) Text World Theory provides a structured mental representation of this ecological discourse. The Discourse World includes Participants (countries, governments) and is defined by Place (the countries involved) and Time (which incorporates past recognition, present action, and future aspirations). The Text World is constructed through entities such as climate financing, greenhouse gas emissions, and climate-resilient development, with temporal markers like “recognized,” “calls for,” and “making”, as mentioned in related ecological texts, grounding the discourse in time. The sub-worlds introduce epistemic elements, such as the recognition of the need for climate financing, and deontic modality, which conveys the belief in low emissions and emphasizes the obligation of nations to act. These cognitive structures underline the urgency and responsibility embedded in the SDGs, positioning sustainability as a key goal for the future.

Moreover, Gavins' theory highlights the dynamic cognitive processes at play within the Discourse World, where judgment and obligation unfold, particularly regarding financial actors and their roles in the transition to net-zero emissions. The Place component emphasizes the transition to net-zero as a critical spatial and temporal shift, while sensory inputs, such as beliefs and intentions, drive the process of judgment and aspiration for this transition. Temporal markers, like “now” and “future,” signal the forward-looking trajectory of these goals, while adjectives like “good,” “strong,” and “sustainable” interact with causal mechanisms to align with sustainability objectives. The sub-world incorporate both epistemic and attitudinal modality, signalling the process of judgment and the hope for net-zero transition, while the deontic modality underscores the responsibility of financial entities to demonstrate their role in achieving this transition.



7. Translation Quality Assessment

Translation methodologies encompass a broad spectrum of strategies, each tailored to serve a unique purpose in the process of conveying meaning from the source language (SL) to the target language (TL). Borrowing, one of the most direct and uncomplicated translation techniques, involves the incorporation of foreign terms into the TL text. This method introduces distinct cultural elements from the SL, preserving the original cultural flavour and uniqueness within the translation. Calque, a specialized form of borrowing, goes a step further by adopting expressions from the SL, while maintaining a literal translation of each individual component. Unlike simple borrowing, which transfers the term itself, calque seeks to mirror the SL's structural or conceptual expressions in the TL. In contrast, literal translation—often described as "word-for-word" translation—entails a straightforward transfer of the SL text into a grammatically correct and idiomatically appropriate TL version. The focus in literal translation is primarily on adhering to the linguistic conventions of the TL, ensuring that the source message remains intact without alteration.

Another important translation method is transposition, which involves replacing one grammatical class with another while preserving the essential meaning of the original message. This technique offers flexibility within the TL, as it can be applied not only in interlingual translation but also within the same language. Modulation, on the other hand, involves a shift in perspective, altering the form of the message to ensure cultural and idiomatic appropriateness. This technique is particularly beneficial when a literal or transposed translation produces a grammatically correct but culturally or contextually unsuitable result. Modulation thus ensures that the translated text resonates with the TL audience by adjusting the viewpoint. Equivalence refers to a translation strategy in which the translator recreates the effect or meaning of the source text through a completely different expression or construction in the TL. This method is frequently employed for translating idiomatic expressions, proverbs, or culturally specific references. Finally, adaptation, often considered a form of equivalence, involves modifying cultural references or expressions to better align with



the cultural norms and expectations of the TL audience. This situational equivalence ensures that the translation resonates appropriately within the cultural context of the target community.

By employing these varied translation techniques, translators navigate the complex task of transferring meaning, carefully balancing linguistic accuracy with cultural nuance.

In the subsequent section, the researcher applies Vinay and Darbelnet's (1995) translation model to analyse a corpus of 17 SDGs. Each example is accompanied by a comprehensive commentary that offers a detailed explanation of the rationale behind the selection of specific translation methods, providing insight into the decision-making process based on the contextual needs of the translation.

Ex#	English Source Text	Arabic Target Text	Model applied
1	No Poverty	القضاء على الفقر	Equivalence
2	Zero Hunger	القضاء التام على الجوع	Equivalence
3	Good Health and Well-Being	الصحة الجيدة والرفاه	Modulation
4	Quality Education	التعليم الجيد	Literal
5	Gender Equality	المساواة بين الجنسين	Transposition
6	Clean Water and Sanitation	المياه النظيفة والنظافة الصحية	Calque
7	Affordable and Clean Energy	الطاقة النظيفة وبأسعار معقولة	Literal
8	Decent Work and Economic Growth	العمل اللائق ونمو الاقتصاد	Modulation
9	Industry, Innovation, and Infrastructure	الصناعة والابتكار والهياكل الأساسية	Literal
10	Reduced Inequality	الحد من عدم المساواة	Transposition
11	Sustainable Cities and Communities	المدن والمجتمعات المستدامة	Literal
12	Responsible Consumption and Production	الاستهلاك والإنتاج المسؤولان	Literal
13	Climate Action	العمل المناخي	Literal
14	Life Below Water	الحياة تحت الماء	Literal
15	Life on Land	الحياة في البر	Literal
16	Peace, Justice, and Strong	السلام والعدل والمؤسسات القوية	Literal



Institutions		
17 Partnerships for the Goals	عقد الشراكات لتحقيق الأهداف	Literal Modulation

In Example 1, the translation employs Equivalence, a strategy used when the objective is to convey the same meaning or impact within a distinct linguistic and cultural framework, even when the form differs. The term "No Poverty" serves as a directive, commonly found in contexts such as the UN's Sustainable Development Goals. Its Arabic translation, "القضاء على الفقر" (meaning "Eradicate Poverty"), effectively preserves the intended message while ensuring cultural and linguistic appropriateness in Arabic. While the English term "No" denotes a negation, the Arabic translation uses "القضاء على" (eradicate), which conveys a more dynamic sense of action aimed at solving the issue, thus maintaining the assertive tone of the original phrase.

In Example 2, Equivalence is similarly applied in the translation of "Zero Hunger" to "القضاء التام على الجوع" (meaning "Complete Eradication of Hunger"). This translation retains the core meaning while enhancing it through the inclusion of "التام" (complete), which emphasizes total eradication. The term "Zero" in the English version signifies complete absence, and the Arabic translation emphasizes this by using "القضاء التام" (complete eradication), which aligns with the original intent. Although a literal translation of "Zero" could have been "صفر," the Arabic expression "القضاء التام على الجوع" more accurately communicates the goal of entirely eliminating hunger. However, the inclusion of the word "التام" could be considered a form of modulation.

In Example 3, Literal Translation is employed, where the translation follows the source text closely, without significant alteration to meaning or structure. "Good Health" is translated as "الصحة الجيدة," which preserves both the form and meaning of the original phrase. Likewise, "Well-Being" is rendered as "الرفاه," a standard Arabic term encompassing concepts of health, comfort, and quality of life. The translation mirrors the source language's structure and meaning, thus qualifying as Literal Translation due to its minimal rewording.



In Example 4, Transposition is applied, which involves replacing a word or grammatical structure with another that is more suitable for the target language, while retaining the original meaning. The English term "Quality," referring to a high standard or excellence in education, would normally be translated as "الجودة" in Arabic, which directly refers to "quality" as a noun. However, the Arabic translation uses "التعليم الجيد" (good education), where "الجيد" (good) is an adjective, replacing the noun "الجودة." This shift from noun to adjective is a clear example of Transposition.

In Example 5, Calque is applied in the translation of "Gender Equality" to "المساواة بين الجنسين." The term "Gender" is rendered as "الجنسين" (the two genders), and "Equality" is translated as "المساواة." This translation is not a literal one, as a word-for-word translation would yield "مساواة الجنس" (equality of the gender). Instead, the Arabic phrase "المساواة بين الجنسين" mirrors the structure of the English phrase while using naturally occurring Arabic terms, demonstrating the Calque method.

In Example 6, Modulation is employed, where the perspective of the original message is altered for greater cultural or linguistic appropriateness. The English word "Sanitation," referring specifically to hygienic conditions, is translated into Arabic as "النظافة الصحية" (health cleanliness). This translation shifts the focus from the technical term "sanitation" (which could be rendered as "الصرف الصحي" in Arabic, relating to sewage systems) to a broader, more inclusive concept of hygiene and cleanliness. The use of "النظافة الصحية" exemplifies Modulation, broadening the meaning to encompass overall health-related cleanliness.

In Example 7, Modulation is applied again to the translation of "Affordable." The English term, indicating something within financial reach, is translated as "وبأسعار معقولة" (at reasonable prices), which conveys the same concept but with a slight shift in expression. Instead of using a direct adjective like "affordable" (which could be rendered as "ميسورة" or "قابلية للتكلفة"), the Arabic translation employs a phrase commonly used in the language, making the concept of affordability clearer and more accessible to the target audience.



In Example 8, both Literal Translation and Transposition are applied. "Decent Work" is translated as "العمل اللائق," with "اللائق" meaning "proper" or "decent," closely corresponding to the English term. In contrast, "Economic Growth" is translated as "نمو الاقتصاد," shifting from the adjective "economic" in English to the noun "الاقتصاد" (economy) in Arabic, demonstrating Transposition of grammatical structure from adjective to noun.

In Example 9, Literal Translation and Transposition are both used. "Industry" is translated directly as "الصناعة," and "Innovation" as "الابتكار," both of which are straightforward, literal translations. However, "Infrastructure" is translated as "الهياكل الأساسية" (basic structures), diverging from the more direct translation of "البنية التحتية" (infrastructure). This shift in terminology represents Transposition, adjusting the structure of the term while maintaining its meaning.

In Example 10, Literal Translation and Transposition are employed. "Inequality" is translated literally as "عدم المساواة," where "عدم" means "lack" or "absence," and "المساواة" means "equality," directly corresponding to "inequality" in English. The English word "Reduced" is rendered as "الحد," meaning "limit" or "restriction," which shifts from the verb "reduced" to the noun "limit" in Arabic, demonstrating a Transposition of grammatical form.

In Examples 11-16, Literal Translation is used throughout, where terms like "Sustainable" ("المستدامة"), "Cities" ("المدن"), and "Communities" ("المجتمعات") are directly translated. Similarly, "Responsible" becomes "المسؤولان," "Consumption" is translated as "الاستهلاك," and "Production" as "الإنتاج." Other terms like "Climate" ("المناخي") and "Action" ("العمل") also follow the pattern of direct translation. In each case, the translation adheres closely to the source text, ensuring accuracy and consistency.

In Example 17, both Literal Translation and Modulation are applied. "Partnerships" is translated as "الشراكات," and "Goals" as "الأهداف," both of which are literal translations. However, the phrase "for the Goals" is translated as "لتحقيق الأهداف," which shifts the



focus from a simple relationship of "for" the goals to an active emphasis on achieving the goals. This change from a passive to an active expression exemplifies Modulation, as the focus of the phrase moves from the partnership's relationship to the goals to an emphasis on the purpose of the partnership—achieving the goals.

8. Linguistic Assessment Discussion

In this section, the researcher undertakes a thorough linguistic analysis of the Arabic translations of UN documents, scrutinizing various translation challenges that may impact both accuracy and clarity. The analysis focuses on several critical areas, including semantic discrepancies that may inadvertently alter the intended nuance of the original text. The researcher identifies instances where inconsistencies arise, particularly in the translation of similar terms across different phrases, leading to potential shifts in meaning or tone.

The study also explores cases of radical shifts in meaning, where certain concepts experience a substantial transformation, as well as instances where minor alterations in meaning subtly influence the emphasis or tone of the message. This is particularly relevant in terms of explanatory translation, where additional words are inserted to provide clarification, and **transposition**, where the structure or word order is modified to better suit the target language. The researcher evaluates how these strategies affect the integrity of the original message, considering whether they enhance or distort the intended meaning.

Moreover, grammatical issues are analyzed to assess their potential impact on the correct representation of the source text. In this regard, the researcher offers specific SDGs examples from the Arabic UN translation, highlighting problematic areas and proposing alternative solutions aimed at achieving more faithful and contextually precise translations. Through this detailed examination, the researcher aims to contribute to the refinement of translation practices, ensuring that future translations better reflect the original text's meaning, cultural context, and intended impact.



9.1. Inconsistency in Translation

In the case of SDGs 1 and 2, "No Poverty" (القضاء على الفقر) and "Zero Hunger" (القضاء التام على الجوع), the English terms "no" and "zero" both express the total elimination or eradication of poverty and hunger. These terms are translated into Arabic as "القضاء" (which literally means 'eradication'), a term that inherently conveys a sense of total elimination and is not gradable. Therefore, the addition of the word "التام" (meaning 'complete') in the translation of "Zero Hunger" is semantically problematic, as it does not enhance the meaning but rather introduces an unnecessary emphasis that is not aligned with the source message. Furthermore, for consistency in translation, the same Arabic term should be applied across both examples. While the English source uses two terms—"No" and "Zero"—which are nearly synonymous, the Arabic translation should maintain uniformity by using consistent terminology, such as "القضاء على," or alternatives like "محو," "إفناء," "اجتثاث," "استئصال," or "محق" to express the concept of eradication.

Additionally, when considering the balance in word count and the syntactical alignment between the source and target texts, the Arabic translation in the second example ("Zero Hunger" – القضاء التام على الجوع) is notably disproportionate in terms of word count compared to its English counterpart. This imbalance distorts the parallel structure between the source and target languages. A more balanced translation for both terms would be "القضاء على الفقر" for "No Poverty" and "استئصال الجوع" for "Zero Hunger." The latter, "استئصال الجوع," is already widely used in UN contexts, including in the title of the "Universal Declaration on the Eradication of Hunger and Malnutrition," which is officially translated on the UN Human Rights website as "الإعلان العالمي الخاص باستئصال الجوع وسوء التغذية."

Thus, a more precise and balanced translation could simply render "Zero Hunger" as "القضاء على الجوع" without the addition of the word "التام," as the term "القضاء" already conveys the intended meaning of complete eradication. This approach would preserve both consistency and semantic clarity across the translations.



9.2. Semantic Issues

In the case of SDGs 3 and 4, "Good Health and Well-Being" (الصحة الجيدة والرفاه) and "Quality Education" (التعليم الجيد), the English terms "good" and "quality" are distinct in meaning. While "good" is an adjective that describes the quality of something, "quality" is a noun that can be further qualified as "good" or "bad." However, the Arabic translations of both terms use the adjective "الجيد" (meaning "good"), which does not accurately reflect the nuanced distinction between the two English words.

In the context of the UN's Sustainable Development Goals, "Quality Education" refers to education that is not only good but also "inclusive and equitable," while promoting "lifelong learning opportunities for all." This broader and more comprehensive meaning is not captured by the Arabic translation "التعليم الجيد," which simply implies that education is good in a general sense, without reflecting the deeper intent of ensuring high standards of education for all.

To achieve a more faithful rendering of the source text, the Arabic translation for "Quality Education" should be revised to "التعليم ذات الجودة," which conveys the notion of education having inherent quality and aligns more closely with the intended meaning of the SDG. This revision would better reflect the emphasis on inclusivity, equity, and lifelong learning opportunities inherent in the original English phrase.

9.3. Radical Semantic Loss

In SDG 7, "Affordable and Clean Energy" (طاقة نظيفة وبأسعار معقولة), the English term "affordable" is translated into the Arabic word "معقولة" (which literally means "reasonable"). However, the term "affordable" specifically refers to something that is inexpensive or has a cost that is not prohibitively high, as defined by sources like Merriam-Webster. In contrast, the word "معقولة" generally implies something that is reasonable or justifiable, but it does not convey the same sense of being financially accessible or inexpensive.

The Arabic translation of "affordable" as "معقولة" is semantically inaccurate, as it fails to capture the core meaning of "affordable" as it pertains to cost. In Arabic, the more



appropriate translations for "affordable" would be "ميسورة" or "ميسورة التكلفة," both of which more accurately express the concept of something being within financial reach or inexpensive.

To align more faithfully with the original English text, the Arabic translation should be revised to "طاقة نظيفة وبأسعار ميسورة." This revision would provide a more accurate reflection of the intended meaning of "affordable" in the context of ensuring access to clean energy at a reasonable cost for all.

9.4. Slight Semantic Loss

In SDG 5, the Arabic translation uses the word "الجنسين" (literally meaning "the two genders"), which is in the dual form, rather than the plural form. The word "جنس" in Arabic generally refers to "gender" but in its dual form, it implies only male and female, which does not fully reflect the concept of gender as understood in modern contexts. According to the WHO, "gender" and "sex" are distinct from "gender identity," with the latter referring to an individual's deeply felt experience of gender, which may or may not align with their sex at birth. Consequently, gender is not confined to just male and female. To accurately capture this broader, more inclusive understanding, the translation should use a plural form or an adjective that reflects a broader notion of gender. A more faithful rendering would be "المساواة الجنسانية," which mirrors the source text both syntactically and semantically, better representing the modern, inclusive understanding of gender.

In SDG 6, "Clean Water and Sanitation" (المياه النظيفة والنظافة الصحية), the word "sanitation" is translated as "النظافة الصحية," which literally means "hygiene." However, "sanitation" encompasses more than just hygiene; as defined by the Macmillan Dictionary, it refers to "conditions and processes related to people's health, especially the systems that supply water and deal with human waste." Similarly, Merriam-Webster defines sanitation as "the promotion of hygiene and prevention of disease by maintenance of sanitary conditions," including the removal of sewage and waste. In contrast, "النظافة الصحية" is limited to "hygiene" and does not convey the full scope of



"sanitation," particularly the systems and processes involved in water and waste management. Therefore, the more accurate translation for "sanitation" in this context would be "المرافق الصحية" (health facilities or sanitary facilities), which better captures the intended meaning. A more faithful translation for the entire phrase would be "المياه النظيفة والمرافق الصحية".

In SDG 8, "Decent Work and Economic Growth" (العمل اللائق ونمو الاقتصاد), the word "decent" is translated as "اللائق" (literally meaning "appropriate"). However, the term "decent" refers to a standard of moral integrity, kindness, and suitability, as defined by Merriam-Webster, and carries a more absolute connotation. In contrast, "appropriate," as reflected in the Arabic "اللائق," is a relative term that implies suitability according to a specific set of standards, which can vary in different contexts. This difference in nuance means that "اللائق" does not fully capture the inherent moral and dignified connotations of the term "decent" in the original English. To better reflect the intended meaning, a more accurate translation of "decent" would be "الكرام", which conveys the sense of dignity and respect. Therefore, a more faithful Arabic version would be "العمل الكريم ونمو الاقتصاد", which better communicates the moral integrity and human dignity implied by the English phrase "decent work."

9.5. Grammatical Issues

In SDGs 14 and 15, "Life below water" (الحياة تحت الماء) and "Life on land" (الحياة في البر), the prepositions "below" and "on" are translated into the Arabic words "تحت" and "في" respectively. However, these translations may not fully reflect the linguistic and cognitive nuances of the original terms.

In Arabic philology, as exemplified in the Quranic verse from Surah Ar-Rūm (Chapter 30, verse 41), the preposition "في" (meaning "in") is used in the phrase "ظَهَرَ أَفْسَادُ فِي الْبَرِّ وَالْبَحْرِ" (which translates to "Corruption has appeared throughout the land and sea"). Notably, the term "في البحر" is used, meaning "in the sea," which is a stylistically established phrase within the Arabic language, particularly in reference to marine environments. In this context, "في" (in) conveys a more natural and precise



relationship between living creatures and their environment, suggesting that marine life exists within the waters, rather than below it.

Cognitively, the SDG "Life below water" refers to the conservation and sustainable use of oceans, seas, and marine resources for sustainable development. These resources are primarily composed of marine creatures that live in the water, not beneath it. Therefore, the preposition "below" may not fully align with the natural depiction of marine life and the oceanic ecosystem.

To better align with both the linguistic and cognitive aspects of the original meaning, the Arabic translation for SDG 14 could be revised to "الحياة في البحر." This translation mirrors the established linguistic usage and accurately reflects the idea of life existing in the water, maintaining both linguistic precision and conceptual clarity.

9.6. Explanatory Translation (Transposition)

In SDG 10, "Reduced Inequalities" (الحد من أوجه عدم المساواة), there is a noticeable discrepancy in word count between the source text (ST) and the target text (TT). Two English words are translated into five Arabic words. While consistency in word count may not pose significant challenges in longer texts, it is particularly important for titles and slogans, where conciseness and clarity are paramount. In contrast to this, many of the other SDGs maintain a reasonable balance between word counts in the English and Arabic versions. Therefore, to ensure consistency and stylistic alignment with other SDG translations, the Arabic translation could be revised to one of the following alternatives: "تخفيض عدم المساواة", "تقليص أوجه التفاوت", or "الحد من التفاوت". Each of these options retains the essence of the original phrase while adhering to a more balanced word count and a consistent stylistic approach.

In SDG 17, "Partnership for the Goals" (عقد الشراكة لتحقيق الأهداف), the word "عقد" (literally meaning "to conclude" or "to enter into") is used in the translation, which can be seen as an explanatory addition. While this term may be appropriate within the body of a text, it does not fit well in the title or slogan format, where brevity and directness are critical. Moreover, for consistency across the SDGs, most Arabic



translations avoid the use of introductory nouns or gerunds before the main phrase. The addition of "عقد" does not contribute meaningfully to the cognitive or stylistic elements of the title and disrupts the streamlined approach used in other translations. A more appropriate and consistent Arabic version would be "الشراكة لتحقيق الأهداف," which eliminates the unnecessary explanatory word and preserves the concise, impactful nature of the original title.

9. Results

9.1. Fidelity in Translation

Fidelity refers to how accurately the meaning of the source text is transferred into the target language without distortion. In the context of the UN's Sustainable Development Goals (SDGs), some of the Arabic translations have shown significant semantic loss. For example, the term "affordable" in the SDG "Affordable and Clean Energy" has been translated in a way that may not fully convey the economic accessibility intended in the original English. This is an important term because it highlights the inclusivity of energy access for marginalized populations, ensuring that clean energy is available to all, regardless of financial status. If the translation fails to capture this nuance, the goal's impact could be weakened.

Similarly, the term "sanitation" in "Clean Water and Sanitation" is critical not only for indicating access to clean water but also for encompassing public health and hygiene. The current Arabic translation of this term might not fully communicate the broad scope of "sanitation," which could limit its effectiveness in the target culture. Ensuring that these terms are accurately translated is vital to preserving the original meaning of the SDGs, ensuring that their goals resonate across linguistic and cultural boundaries.

9.2. Adequacy in Translation

Adequacy refers to how well the translation meets the needs of the target language and its audience, considering both cultural and contextual appropriateness. Some of the prepositions used in translating the SDGs—such as 'below' in "Life below water"



and 'on' in "Life on land"—may not be fully appropriate in the Arabic context. The spatial relationships indicated by these prepositions might not resonate with Arabic speakers as intended, due to differences in how space is conceptually understood in the language. The preposition "below" in particular could be misinterpreted, as the Arabic language often uses "في" (in) for both "in" and "below." This could lead to a lack of clarity regarding the ecological context of these SDGs.

Thus, the translation of these titles should be revisited to better reflect the spatial relationships between land, water, and life. The new translation should ensure that the environmental context is clear to Arabic-speaking audiences while also considering regional perspectives on geography and nature. For example, a more accurate rendition of "Life below water" might involve revising the phrase to reflect both ecological depth and spatial proximity in a way that resonates culturally and contextually with Arabic speakers.

9.3. Consistency in Terminology

Consistency is another critical factor in translating the SDGs. Inconsistent use of terms across various SDGs can create confusion and undermine the coherence of the entire framework. For example, the translation of "Good Health and Well-Being" and "Quality Education" can vary, with the Arabic translations sometimes using different terms for "good" and "quality," which are central to the SDGs' vision of high standards for human life. If the terms for "good" or "quality" are inconsistently translated, it may dilute the strength of the SDGs' message or create confusion among Arabic-speaking audiences about what the UN is aiming to achieve.

Additionally, the translation of SDGs like "No Poverty" and "Zero Hunger" should ensure consistency in phrasing and terminology. Ensuring that all SDG titles are translated in a uniform and coherent manner helps Arabic-speaking readers quickly grasp the universal goals and ensures that the message is easily understood across different Arabic-speaking regions.



9.4. Readability and Accessibility

Readability and accessibility are particularly important when translating technical and policy-driven texts such as the SDGs. In the Arabic translation, the phrase "Speak up"—used in advocacy contexts—currently lacks the depth of meaning implied in the English version. While the literal translation may be understandable, it does not fully convey the urgency, action, and collective advocacy implied in the original. The Arabic translation should be more nuanced, capturing not just the act of speaking but also the call for active engagement, participation, and advocacy within ecological and sustainability efforts. This revision would enhance the accessibility of the text, making it more motivating and empowering for Arabic-speaking audiences.

In the case of technical terms like "carbon footprint" or "sustainable development," the translation should ensure that these complex concepts are made accessible to a broad audience while preserving their technical accuracy. The use of neologisms or borrowing terms directly from English, when appropriate, should be accompanied by clear explanations or contextual cues to help the target audience understand their meaning.

10. Conclusion: The Need for Continuous Improvement

The translation of UN ecological texts into Arabic plays a critical role in ensuring that global sustainability goals are communicated effectively to Arabic-speaking communities. However, as with any translation, there is always room for improvement. Issues of fidelity, adequacy, consistency, and readability must be addressed to ensure that the translation aligns with the original message and resonates with the target audience.

By carefully revisiting key translations—such as those related to "affordable energy," "sanitation," or "life below water"—and ensuring consistent, culturally relevant terminology, the UN's ecological texts can be more accurately and effectively conveyed to Arabic-speaking communities. The Arabic translations should not be taken for granted, and continuous revision and improvement are necessary for



enhancing their impact and relevance. This ongoing effort will help empower Arabic-speaking audiences to engage with and contribute meaningfully to global ecological discussions, ultimately supporting the achievement of the SDGs and sustainable development worldwide.

Translating United Nations (UN) ecological texts presents a highly intricate and demanding challenge that requires the translator to navigate multiple complex factors. This task can be compared to a delicate dance, where the translator must balance cognitive content, semantic meaning, syntactic structure, stylistic nuances, and the overall intended message of the text. Given the global nature of the target audience, the translator must carefully consider the linguistic and cultural needs of the target language. Achieving this balance is crucial to ensuring the translation remains faithful to the original text while also resonating with the new audience.

One of the primary challenges lies in maintaining the fidelity of the translation. If the translator places excessive emphasis on preserving the cognitive content—such as the ideas, facts, or technical details—they risk overlooking the stylistic and tonal elements of the original text. This may lead to a translation that, while accurate in terms of information, fails to capture the stylistic and emotional undertones intended by the original author. Such translations can sometimes align with the concept of *Belles infidèles*—a type of translation that may be aesthetically pleasing but fails to preserve the original essence and meaning. In other words, the translation might sound good but loses the emotional weight, tone, or cultural resonance that was present in the source text.

The approach to translation must be shaped by the specific context and goals of the text being translated. Frameworks like Gavins' (2007) Text World Theory and Stibbe's (2015) ecolinguistics model are highly valuable tools in this process, as they focus on both the cognitive and stylistic aspects of translation. These theoretical approaches highlight the multiple layers within ecological texts, addressing the linguistic choices that structure the content, the concepts conveyed, and the emotional

and cognitive dimensions of ecological discourse. By applying these frameworks, translators can ensure that the translation not only captures the factual content but also conveys the tone, imagery, and emotive resonance of the original text.

In the case of UN ecological texts, the cognitive weight of each word or phrase is of paramount importance. These texts are carefully crafted to communicate not just information but also emotions, actions, and the urgency of global ecological issues. A translator must, therefore, pay careful attention to each word's meaning and its potential impact. The translation process involves not only converting words from one language to another but also ensuring that the translated text maintains the same conceptual clarity, emotional weight, and call to action.

Syntactic structure, semantic nuances, and stylistic choices are all integral to shaping the final translation. While the cognitive content (facts and ideas) is critical, it is equally important to ensure that the translation reflects the original style, tone, and rhetoric. For example, the use of rhetorical devices, metaphors, and framing strategies in ecological texts can be central to conveying urgency, importance, and the need for collective action. Ignoring these elements or simply focusing on a literal translation of cognitive content may result in a final product that, although factually accurate, fails to engage the reader in the same way the original text does.

The translator must perform a meticulous cognitive process to ensure that the translation is not only accurate but also engaging. Every word, every phrase, and every choice of syntax must be carefully considered. The aim is to produce a translation that speaks to the target audience while preserving the original message, both in terms of its cognitive content and its stylistic elements. Given the diversity of the global audience and the specific goals of ecological communication, the translator must adapt the text to ensure clarity and impact.

In conclusion, producing a high-quality translation of UN ecological texts requires a holistic approach that integrates both cognitive and stylistic considerations. While it is often impossible to create a perfect replica due to the inherent linguistic and cultural

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differences between languages, the goal is to create a version that mirrors the original as closely as possible. The translation should faithfully capture not only the meaning of the text but also its tone, style, and the emotional or cognitive weight that accompanies the ecological message. By adhering to the cognitive and stylistic principles discussed in this study, translators can produce translations that are not only accurate but also resonate deeply with the target audience, ultimately supporting the broader goals of global ecological communication and action.

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