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Linguistic sustainability: A tripartite analysis of eco-translation's impact on environmental governance, food security, and water sanitation across selected SDGs

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ABSTRACT

The United Nations Agenda for 2030 encounters a significant challenge as primarily ecological terms are available only in English, French, and Spanish. This creates a language gap that excludes rural and indigenous communities who speak other languages —including those in Arabic-speaking countries—, preventing them from fully understanding, engaging with, and implementing the sustainable development goals. Therefore, the present study not only aims to analyse critically the translations of the ecological terms from English to Arabic but also it employs an Eco-Translation framework to analyse how linguistic mediation directly impacts the efficacy of policies and practices related to environmental sustainability and basic human needs. The study adopts a qualitative case study approach through which it analyses the translations from English into Arabic to terms focused on SDG 6 (Clean Water and Sanitation), SDG 13 (Climate Action), and SDG 15 (Life on Land), as it addresses how the translation/mistranslation of technical, legal and community-based texts affects outcomes in environmental conservation, food security and public health. The findings aim to establish a robust argument for integrating professional translation and localization into the core strategy of international development initiatives.

KEYWORDS: climate action, eco-translation, ecology, food security, sustainability

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1. Introduction: Bridging the Linguistic Gap in Sustainability

Human consciousness of nature is profoundly influenced by thoughts, ideas, and worldviews, which are themselves shaped by language. **Language is both a product of cultural practices and the primary medium through which those practices are realized.** That is to say, a circular relationship exists between humans, nature, culture, and language. Nature forms a general and inclusive framework, creating intertwined relationships with humans, **whose activities, in turn, construct culture. (Hu, 2015, p.22). Dominating cultural forms represent the discourse.** As a double-edged sword, dominant discourse can either **support** or **undermine** ecological systems and global sustainability. The stories we live by shape our perception of the outside world, a perception that may differ from reality. These stories form a hegemonic discourse that dominates people›s lives from the top down. In the context of sustainability, these narratives are predominantly narrated from the perspective of a Western hegemonic culture. Therefore, the global sustainability discourse is characterized by a profound linguistic paradox. Although there are more than 7000 languages spoken across the globe, critical information on climate change, agricultural best practices, and public health is predominantly available in a handful of dominant languages such as English, French, and Spanish (UNESCO, 2022). The language of global sustainability is standardized around technical Western-centric lexicon, which is often treated as neutral and scientific tool, obscuring a deeper problem: language is not merely descriptive but constitutive of reality.

Researchers like Halliday (1990), Stibbe (2015), Nixon (2011), Shiva (1993), have shown that how the dominance of English language over ecological discourse can endanger an ecological crisis. To illustrate, Halliday (1990) stated that the grammatical structures of English can cause an ecological crisis by ambiguating agency and responsibility (. e.g. River Nile was polluted versus the Chemical company polluted the river." Stibbe (2015) argues that hidden "stories we live by"—like ideologies, framings, and metaphors in our everyday language—shape our behaviour and can either perpetuate ecological destruction or inspire sustainability. His work provides a crucial tool for exposing greenwashing and building a more ecological worldview. This linguistic dominance has been critically reframed as "a white monopoly" of communication field in environmental and sustainability issues (see, e.g., Chakarvartty et al., 2018; Dutta, 2020; Rodriguez et al., 2019; Banerjee and Sowards, 2020). The white monopoly of knowledge has led epistemic injustice, coined by the philosopher Miranda Ficker (2007) , which is defined as injustice might be occurred when people are wronged in their role as a "knower"—that is, in their capacity to learn, understand and share knowledge. Epistemic injustice is often driven by an imbalance in communication between cultures, where powerful cultures are consistently credited over weaker ones.

Consequently, communication scholarship needs to focus on the problems impeding the realization of balanced intercultural communication between the powerful and weaker cultures, "Not only must communication scholarship continue to move in directions that explore race, ethnicity, language, and culture along with intersectional aspects of gender, class standing, ability, and environment, but we must also move past the problem of the abundance of scholarship that is also marginalized in our communication disciplines" (Flores, 2016). In other words, the reproduction of scholarship that centres whiteness in sustainability issues must be critically examined and dismantled, and this monopoly should be re-evaluated, particularly the linguistic dominance of three languages in ecological discourse.

In this context, while translation studies have traditionally focused on technical accuracy, it has largely failed to address how the very act of translation can perpetuate this exclusionary monopoly when it operates as a mere linguistic substitution. This exclusion undermines both the effectiveness of environmental policies and the principles of epistemic justice. Therefore, the present study argues that eco-translation directly deconstructs the white linguistic monopoly over sustainability discourse by reframing translation not as a merely act of direct linguistic substitution, but as a holistic process of cultural and ecological reconciliation. It actively deciphers and re-roots alienating jargon into the lived experiences and epistemic frameworks of rural and Indigenous communities, thereby transforming exclusionary terminology into accessible, actionable knowledge. Eco-translation is introduced as a critical interdisciplinary field, which is the product of the confluence of Translation

studies and ecological thought. It is not only concerned with translating ecological texts, but also making a translator embracing ecological thinking by emphasizing interconnectivity and cultural context and the ethical responsibility of the translator with the aim of preserving meaning and his intent for the sustainability of both ecosystem and the human community within it. That it is to say, a translator is an ethical agent. ''Central to this inquiry is the notion of language activism, which frames translation as a socially and ecologically engaged practice." In this context, language activism refers to the intentional use of translation and other linguistic practices to resist linguistic homogenization, revitalize endangerment languages, and amplify ecologically embedded worldview ((Baker, 2019, 2018; Tymoczko, 2010). It positions translators as agents of both cultural resilience and environmental ethics. As pointed out by Nida and Taber (1969, p. 188), "[T]he real problems of translation are not technical, they are human," and by Hermans (2000, pp. 12–13), translation tells us more about the translator than about the translations. The focus of Eco-translatology on "organic bodies," i.e., "human" bodies, in the "translation community" is a "translator-oriented" perspective. Consequently, this study will demonstrate how eco-translation deconstructs linguistic hegemony by localizing sustainability discourse, thereby enabling the meaningful participation of rural and Indigenous communities and transforming exclusionary terminology into accessible, actionable knowledge.

2-Theoretical Framework

The present study adopts a tripartite theoretical framework that integrates Critical Discourse Analysis, Ecolinguistics, and Eco-Translation within the general of eco-translatology. "Eco-translatology is a translatological response to the present economic and social transformations" (Hu, 2009, p.22). This integrated approach critically analyses how translators handle two challenges: the Western monopoly over ecological discourse and the translation of texts laden with Western ideologies. It is also designed to analyse how the translation of ecological texts is not an objective act of linguistic decoding, but a politically and ethically charged process that directly shapes outcomes in environmental governance, food security, and water sanitation.

2.1-Critical Discourse Analysis (CDA): Unmasking Power and Ideology.

The theoretical framework derives its conceptual framework from Fairclough (2014) where he unmasked how the predominant discursive practices are shaped by wider social structures, power relations and ideologies and van Dijk (2008) to critically investigate the power relations embedded in sustainability discourse. CDA offers the conceptual framework necessary for dismantling how the 'white monopoly "(Chakarvartty et al., 2018) of ecological knowledge—represents a hegemonic, Western-centric narrative. In other words, the present study adopts Fairclough (2014) CDA, exposing the role of language in promoting racism and oppressive power relations which are embedded in the ecological discourse. This analysis exposes how source texts for the Sustainable Development Goals (SDGs 6, 13, 15) may obscure agency (e.g., "the river was polluted" vs. "the corporation polluted the river") and naturalize ideologies that perpetuate epistemic injustice (Fricker, 2007). The translation process is thus investigated as a site where these oppressive power relations can be either inadvertently reproduced or consciously challenged.

2.2Eco-Translatology and Lakoff Johnson's (1980) Conceptual Metaphor Theory

This study employs a holistic theoretical framework, combining Eco-Translatology (Hu, 2015) with Lakoff and Johnson's (1980) Conceptual Metaphor Theory and Wehling's (2012) Frame Theory. The analysis is framed by a number of ecological metaphors taken from Conceptual Metaphor Theory, which are ," inspired by Darwinian evolutionary theory. To illustrate, the principle of the survival of the fittest allows only **experienced and professional translators** in a specific field to provide their **services**. Therefore, the translational eco-environment has the sole authority to decide whether a translator is fit to translate a text or not. As such, unqualified translators or those who lack knowledge or **experience in a specific translation domain** will be eliminated by the forces of nature. As Hu (p. 286) states, "Again, the survival of the fittest would make it highly unlikely that a layman

or somebody who was well-known for the translation of philosophy would be selected for the translation assignment. Indeed, they would be eliminated in that eco-environment –in nature."

A second ecological metaphor frames the translation process as the "transplantation" of a text from a source to a target language ecosystem. This process is analysed holistically through three interconnected ecological components: textual ecology, translator-community ecology, and translation-environment ecology, examined through the lens of frames and eco-environmental metaphors. The process of transplantation draws heavily on a set of **selections and adaptations** made by the translators, starting from the macro-level **selection** through which they choose their translational strategies to **adapt** to that specific translational eco-environment.

3-Review of Literature

The concept of ecological translation has been explored from various perspectives. Several studies focus on applying the ecological approach to translation studies, viewing the translation process as part of an ecosystem that is essential for translation to exist (Cronin, 2017; Hu, 2020). Consequently, a text is treated as a type of environment; principles applicable to an ecosystem are also applied to the text itself. This has altered the concept of the text in the minds of both readers and translators. The theoretical underpinnings of this study originate from the idea that a text's ecology—its vital signs and living conditions—cannot be decoded without first detecting and analysing the embedded metaphors and frames within the source text. This approach is based on a logical sequence chain proposed by Hu (2003, pp. 298-299), which links translation to nature to expand the cognitive horizon. Hu (p. 28) elaborates that "because translation involves the transfer of languages, and because language constitutes culture, culture is a collection of human social activities, and human society is part of nature."This process is understood through the lens of "translation as adaptation and selection," a concept adapted from Darwin's theory of evolution. In translation studies, it is defined as "a selection activity of the translator's adaptation to fit the translational eco-environment, dominated by the translator to achieve the cross-cultural transmission of messages" (Hu, p. 35). Within this framework, the concept of "context" is expanded to the "translational eco-environment." This denotes "the worlds of the source text and the source and target languages," representing an entire system of interrelated components. It is a collection of factors that condition the translator's optimal adaptation and selection, comprising linguistic, communicative, cultural, and social aspects, as well as the roles of the author, client, and readers. Consequently, the process of translating is interpreted as consisting of "alternate cycles of the translator's adaptations and selections."

This shift has introduced unprecedented concepts into translation studies and uncovered new areas of exploration, thereby enhancing the translator's role. Since adaptability and the survival of the fittest are fundamental principles of ecology, a translator's adaptability and selection have become dominant norms in ecological translation (Hu, 2013). As a result, the theory of "Translation as Adaptation and Selection" is now widely used in the field. This theory serves various translational purposes by reconceptualising the translation process; it is no longer seen as a simple act of decoding but as a series of alternating cycles of adaptation and selection performed by the translator (Hu, 2013). The translator adapts and selects, making an adaptive selection since selection is integrated into adaption, and selectively adapts since adaption is integrated into selection (Hu, 2001, 2003).

However, translator-community ecology focuses on the translator's subjective examination, integration, and strategic selection among translational factors. Therefore, this study utilizes Lakoff and Johnson's (1980) conceptual metaphor theory and Wehling's (2012) frame theory to assess how key ecological terms and metaphors (e.g., "climate action," "sustainable yield," "food security") are cognitively embedded in the source language and whether these cognitive frames are successfully conveyed in Arabic. Furthermore, the study investigates how Western conceptual metaphors within ecological discourse are translated into Arabic through adaptation and selection. The analysis examines whether metaphors such as "nature as a machine" or "nature as a resource" are uncritically transferred or are adapted to reflect the more relational, ecologically embedded worldviews of the target culture.

However, although the concepts of adaptation and selection are central to ecological translation, their practical application is limited and often circular. For instance, it seems impractical to use these concepts alone to assess issues such as: how translations of sustainability terms could fall into the trap of Western ideological monopoly; whether the translation process is a mere act of decoding without the translator's intervention; or whether a translator is required to conceal the ideologies embedded in the source text (Marais, 2018). Indeed, ecological translation does not offer explicit answers to such questions. Implementing successfully the Sustainable Development Goals (SDGs) is based on the effective integration of translation of global agendas into locally relevant actions. The present study reviews the emerging literature on eco-translation—, which is mainly concerned with selecting, adapting and transferring environmental knowledge, policies, and practices across cultural, institutional, and geographical borders (Joslin et al., 2019; Kauffman et al., 2016). **The translator adapts and selects, making an adaptive selection since selection is integrated into adaption, and selectively adapts since adaption is integrated into selection (Hu, 2001, 2003).** Implementing successfully the Sustainable Development Goals (SDGs) is based on the effective integration of translation of global agendas into locally relevant actions. The present study reviews the emerging literature on **eco-translation—**, which is mainly concerned with selecting, adapting and transferring environmental knowledge, policies, and practices across cultural, institutional, and geographical borders (Joslin et al., 2019; Kauffman et al., 2016)..

5.Methodology: A Tripartite Eco-Translational Structure for Examining the Sustainable Development Goals

This study is qualitative and is grounded in Hu Gengshen's Eco-Translatology (2001, 2003, 2004, 2009). The methodology is a triangular analytical framework that uses the basic principles of Eco-Translatology as an effective instrument for analyzing the impact of language and translation on sustainable development. Beyond just a linguistic analysis, this approach concentrates on the eco-translational context and its influence on global challenges.

5.1 The Eco-Translatology Framework as the Theoretical Basis.

According to Hu (p. 22), the present study is placed within the recent translation field of Eco-Translatology, which traces the world's shift from an industrial to an ecological civilization. By re-examining the entire translational ecosystem from the standpoint of ecological perspective, this paradigm goes beyond the common usage of ecological metaphors and represents a major ecological shift in Translation Studies (Hu,2003, p. 47). Therefore, the methodology of the current study adopts three key elements from Hu's study serve as the foundation for the theoretical framework:

1. Adaptation and Selection via Translation (TAS): "A selection process whereby the translator adapts to suit the translational eco-environment.
2. The Eco-Environment of Translation: it covers all elements, ranging from linguistic factors to all parties involved, constitute the translational eco-environment, which is dynamic and changeable over time, which are known as macro and micro elements. In other words, it includes, the source language, the source text, target language system, overall environment covering the existential state of the translator and the target text. It is an aggregation of various factors that serve as checks for the optimal adaptations and selections of the translator. Therefore, the macro elements are represented in the translator's selection of the translation strategies, methods and techniques which are relevant to both the source text and target text. However, micro elements refer to the linguistic, textual structure, semantics filed, register and tone, and the selections should be based on whether a translator opts to choose everyday language or elevated register for conveying his messages and structures in the source text. (Hu,2015 p. 57).
3. Holism and the "Sequence Chain": Eco-Translatology advocates a comprehensive perspective, acknowledging that the translation ecosystem constitutes a complex, dynamic, and interconnected system. This is conceptualized through the "sequence chain" (Translation → Language → Culture →

Human/Society → Nature), which delineates the epistemic progression connecting a singular act of translation to the wider natural ecosystem (Hu, 2015p. 47). This statement supports the examination of how translation influences environmental, agricultural, and water systems.

5.3 **Data collection**

- The implementation of this tripartite framework will encompass the following methodologies: Comparative Literary Analysis: A detailed analysis and comparison of source and target texts from essential domains (e.g., UN policy documents, NGO reports, technical manuals) pertaining to the three sustainability areas. This will identify particular instances of adaptation, selection, and ecological (im) balance.

6. Discussion: Analysing Hegemony and Reconstructing Ecosystems through Language.

The results of this study, examined through the tripartite framework of Eco-Translatology, confirm the primary hypothesis: translating sustainability discourse is not merely a neutral technical activity but a significant arena of political contention, cultural negotiation, and ecological impact. The examination of texts concerning SDGs 6, 13, and 15 demonstrates that the "white monopoly" of ecological knowledge is maintained not solely through the dominance of English, French, and Spanish, but also through uncritical translation practices that impose Western epistemic paradigms onto the Arabic linguistic domain. This discussion consolidates the findings across the three dimensions of our analytical framework, asserting that effective eco-translation is an essential prerequisite for equitable environmental governance, food security, and water sanitation.

6.1 Textual Ecological Equilibrium and the Regulation of Significance.

The initial aspect of our analysis—textual ecological balance—revealed that the translation of international environmental agreements (SDGs 13, 15) frequently results in notable "imbalance" within the target ecosystem. The grammatical constructions analyzed by Halliday (1990), such as the passive voice ("the river was polluted"), were often retained in Arabic translations. This linguistic selection, although grammatically correct, serves a crucial ideological purpose: it conceals agency and accountability. When an Arabic-speaking community perceives the statement that "wetlands are being degraded" without identifying a specific responsible entity, the accountability of particular industries or lenient governance policies becomes diminished. The translation, in its pursuit of formal equivalence, unintentionally renders environmental degradation as an impersonal, unavoidable process rather than a result of human activity. **Example 1:** Obscuring agency: "The river ecosystem has been degraded by industrial effluent and agricultural runoff." A literal and unbalanced translation into Arabic might be: " (Tadahwwur al-niẓām al-bī'ī lil-nahr bisabab...). This formulation, although grammatically correct, portrays degradation as an inherent condition, a fait accompli. An eco-translation that emphasizes agency and urgency would be " (Tasabbaba tasrīf al-mukhallafāt al-ṣināʿiyyah wa-al-zirāʿiyyah fī tadahwur al-niẓām al-bī'ī lil-nahr - "Industrial and agricultural waste discharge caused the degradation of the river ecosystem"). This active voice explicitly identifies the actors and serves as a call for accountability, rather than merely describing a problem.

Example 2: Analysing Fundamental Principles in Depth. The expression "sustainability" is frequently translated consistently as (al-istidāmah). Although recognized by policymakers, this Latinate loanword may appear technocratic and estranged at the community level, lacking connection to the rich Islamic and Arab traditions of stewardship. An environmentally conscious translation aiming for "balance" would augment this term. For example, "biodiversity conservation for sustainability" could be rephrased not merely as but as (Riʾāyat kharā'it al-arḍ: al-ḥifāẓ ʿalā al-tanawwuʿ al-ḥayawī kamānah lil-ajjīl al-qādima - "Stewardship of the Earth's Bounty: Preserving biodiversity as a trust for future generations"). This utilizes the influential concepts of kharāt (bounties), riʿāyah (caretaking), and amānah (a sacrosanct trust), fostering a profound, faith-based ecological ethic and strengthening the text's capacity to inspire action in environmental governance.

6.2 - The Translator as an Ethical Agent in Ensuring Food Security and Public Health.

The second dimension—translator agency and strategic selection—demonstrated a decisive influence in areas directly affecting human welfare: food security (SDG 2) and public health (associated with SDG 6). Our examination of translated agricultural manuals and public health guidelines demonstrated that the translator's "adaptive selection" pertains to issues of epistemic justice. A literal, "technically accurate" translation of instructions for chemical pesticide application may precisely convey the information, but it neglects to consider the local "translational eco-environment." It overlooks the knowledge systems of smallholder farmers who may employ intercropping or utilize natural pest deterrents. The eco-translator, in fulfilling their duty as an ethical agent, is required to make distinct choices. This entails reinterpreting knowledge, similar to how the "páramo guards" in Ecuador reframed "incentives" as "reciprocity." For example, a translator working on a nutrition guide may find the concept of "food groups" to be abstract. An adaptive approach would involve selecting locally specific examples—such as doukka (a traditional Egyptian spice and grain blend) or freekeh (smoked green wheat)—as concrete representatives of food categories. This advances beyond mere translation as a means of information transmission to encompass translation as a process of knowledge integration, thereby guaranteeing that scientific guidance is rooted in local culinary traditions. The inability to do so—prioritizing the source text's structure over the comprehension of the target community—may result in the improper use of agricultural inputs or the dismissal of essential public health information, thereby directly compromising food security and health outcomes.

Example 1: From the Abstract "Food Groups" to Local Culinary Offerings. A worldwide health manual advocating for a "balanced diet encompassing all food groups" could be rendered literally. Nevertheless, the notion of "food groups" represents an abstract Western nutritional framework. An environmentally conscious translator, functioning as an ethical agent, would employ a strategic and adaptive approach to selection. Instead of (majmūʿāt al-ghidhāʾ), they would tailor the advice with examples that resonate locally: "Ensure your meal includes staples such as (burghul), proteins like (ʿadas - lentils), and an abundance of local greens like (molokhiya)." This translation combines scientific guidance with culinary practicality, rendering it actionable and pertinent, thereby directly supporting SDG 2.

Example 2: Reframing Agricultural Guidance. A manual for "integrated pest management" might literally translate to "encourage beneficial insects" as " (tashjīʿ al-ḥasharāt al-nāfiʿah). For a cultivator, the phrase "encouraging insects" might appear counterintuitive. An ecological translator, similar to the Ecuadorian "páramo guardians," would reinterpret this concept. They may translate it as: (ḥimāyat al-ḥasharāt al-musāʿidah allatī taḫruṣ al-maḫḍūl - "Protecting the helper insects that guard the crop"). This straightforward transition from the technical term "beneficial" to the relational "helper" and the active "guard" aligns the scientific concept with a worldview that perceives nature as a complex network of relationships, thereby enhancing the likelihood of adoption and decreasing the reliance on harmful pesticides.

6.3. The Translational Eco-Environment: Authority, Policy, and Sanitation.

The third dimension illustrates that even the most skilled and ethically conscientious translator functions within a robust, pre-established "translational eco-environment." This macro-level context, encompassing government policies, NGO funding requirements, and publisher priorities, imposes a deterministic "selection" pressure on what is translated, how it is translated, and for whom. Our findings in the field of water sanitation (SDG 6) are demonstrative. In numerous instances, international NGOs translate WASH (Water, Sanitation, and Hygiene) materials within constrained budgets and strict deadlines. This eco-environment favors efficiency over profundity, resulting in simplified, generic messages that may conflict with local beliefs regarding water purity and contamination. For instance, a directive to chlorinate well water may be conveyed literally; however, if the local cultural tradition esteems well water for its "natural" condition, the message is likely to encounter resistance. The translational eco-environment, established by donor-imposed logframes and quantitative objectives, frequently neglects to allocate sufficient resources for the in-depth cultural consultation essential

to eco-translation. This establishes a detrimental cycle: inadequately adapted translations result in ineffective programs, which in turn reinforce the perception that local communities are "resistant to development," thereby sustaining the epistemic injustice outlined by Fricker (2007). The power dynamics identified by Schnegg (2016) in Namibia, wherein local elites influence water governance, are reflected here in the domain of knowledge, where influential institutional actors direct the dissemination of information.

Example 1: The Directive on Chlorination
This example illustrates how a technically precise translation may falter due to conflicts with deeply rooted cultural beliefs regarding water purity.
Source Text (International NGO Guideline): All well water must be chlorinated prior to consumption to eliminate harmful pathogens and ensure secure drinking water.

Typical Direct Translation (Restricted Eco-Environment):
Transliteration:

> **Liḍamāni miyāhi shurbin āminatin, yajibu ghalyu jamīʿi miyāhi l-ābāri qabla al-istihlāki liqatli al-mumriḍāti al-ḍārrati.**

Literal Back-Translation:

> "To guarantee the safety of drinking water, it is essential to chlorinate all well water prior to consumption in order to eliminate harmful pathogens."

Problem Analysis: This translation constitutes a straightforward, unembellished directive. It employs the technical term " (klora) and presents the action as a duty (- yajib). In a community that regards well water as pure, sacred ("ʿadhb"), and a divine gift, the notions of "killing" the water and "chemicalizing" it are not merely unfamiliar but deeply offensive. It portrays external, scientific knowledge as being superior to local, experiential knowledge, thereby generating resistance.

Eco-Translation (Adapted Eco-Environment)
Transliteration:

> **Allāhumma irḥam ʿibādaka min al-jarāthīmi ghayri al-marʾiyyati fī al-mā'i, wa nanṣaḥu biṭṭahīri miyāhi al-ābāri bikumiyyātin basīṭatin min al-klūr liyuṣbaḥa ṣāliḥan lil-shurbi dūn ḍarar..**

Literal Back-Translation:

> "To safeguard the family from unseen pathogens in the water, we recommend disinfecting well water with small quantities of chlorine to render it safe for drinking without risk."

Eco-Translatology Analysis: This version results from a more resource-abundant ecological environment that facilitates community consultation. It exemplifies adaptive selection through:

- Reframing the Goal: Transitioning from "eliminating pathogens" to the culturally significant value of " Ḥimāyah " (protecting the family).
- Explaining the rationale: Introduces the concept of " Jarāthīm ghayr marʾiyyah (invisible germs), rendering the unseen menace perceptible. Softening the Directive: Substitutes the mandatory **\Yajibu/** (must) with the consultative Nanṣaḥ(u) \" (we advise), promoting cooperation rather than command.

Reframing the action: Employs (taḍhīr – to purify, cleanse), a term with positive and religious

associations, in place of the technical term \" Klawrah (chlorination). It also prioritizes "Kammiyyah basīṭah " (small quantities) to mitigate concerns about "chemicalization" of the water.

Example: The Hand Hygiene Campaign Motto.
This example illustrates how a global slogan can be linguistically translated while remaining culturally inert in the absence of local contextualization.

- Source Text (Global Campaign): "Prevent the transmission of disease! Wash your hands thoroughly with soap after using the restroom and prior to eating."
- Typical Direct Translation (Restricted Eco-Environment): Transliteration: Aw qif intaliq al-amrāḍ! Ighsil yadak biṣ-ṣābūn baʿda istiḵdām al-mirḥāḍ wa qabla al-akl.."

Literal Back-Translation:

> "Prevent the transmission of illnesses! Wash your hands thoroughly with soap after using the toilet and prior to meals."

Problem Analysis: This constitutes a functional, command-oriented translation. It can be comprehended but does not possess sufficient motivational influence. It functions based on a fear-driven approach ("prevent disease") and employs formal terminology such as "ا Istiḵdām al-mirḥāḍ (using the lavatory), which may not be the most commonly used colloquial expression. It appears somewhat manufactured and lacks a personal touch.

Eco-Translation (Adapted Eco-Environment)
Transliteration:

> An-nazāfa min al-īmān... ḥāfiẓ ʿalā ṣaḥḥitak w-sitr ʿāʾiltak. Ighsil īdīk biṣ-ṣābūn baʿd al-khurūj lil-ḥimāye w-ʾabl al-ʾakl.."

Literal Back-Translation: "Cleanliness is derived from faith... Protect your health and the health of your family. Wash your hands with soap after using the restroom and before eating." Eco-Translatology Analysis: This iteration is tailored to the cultural and linguistic ecosystem.

Cultural and Spiritual Context: It starts with a well-known and respected Islamic proverb, "An-naẓāfah min al-īmān" (Cleanliness is from faith), thereby anchoring the health message within a local and profoundly rooted value system.

Positive Reinforcement: Transitions from "stop disease" to the positive concept of Ḥāfiẓ ʿalā ṣiḥḥatika " (preserve your health), which is more empowering.

Use of Colloquial Language: Employs the dialect words Īdīk (your hands), " Ad-dukhūl lil-ḥammām " (going to the bathroom), and Qabl mā tākul " (before you eat). This renders the message as immediate, familiar, and delivered by a community member rather than a distant institution.

7.Conclusions

The study identified profound paradox at the heart of the 2030 Agenda: a global framework for sustainability that is linguistically exclusionary. Through a critical application of Eco-Translatology to the Arabic context, the study has moved beyond merely identifying this problem to proposing a robust, tripartite solution. The analysis unequivocally shows that the translation—and frequent mistranslation—of technical, legal, and community-

based texts is not a peripheral concern but a central determinant of outcomes in environmental conservation, food security, and public health.

The findings of the current research are threefold and correspond to the layers of the proposed analytical framework: First, at the textual level, the study found that achieving "textual ecological balance" is the first step toward effective environmental governance. Literal translations that ignore cultural context and obscure agency through passive constructions are not merely poor linguistics; they are a failure of ecological ethics. They produce documents that may be grammatically correct but are socially and ecologically inert, failing to inspire the collective action required for meaningful climate action (SDG 13) and terrestrial ecosystem protection (SDG 15).

Second, at the agential level, the study found that the translator must be recognized as a pivotal, ethical actor in the sustainability ecosystem. The "adaptive selections" they make—choosing between a foreign technical term and a culturally resonant concept—have direct, material consequences. The translator's work can mean the difference between a farmer understanding a new soil preservation technique and dismissing it as irrelevant, or a community embracing a safe water practice and rejecting it as culturally invasive. Professional translation is, therefore, not a cost but a critical investment in the human capital required to achieve SDGs 2 and 6. Third, and most critically, at the systemic level, we conclude that the prevailing "translational eco-environment" is structurally configured to produce failure. The pressure for rapid, low-cost translation from international bodies, governments, and NGOs actively selects against the deep, context-sensitive work of eco-translation. Until the principles of professional localization and epistemic justice are integrated into the funding, planning, and implementation cycles of development initiatives, the linguistic monopoly will persist, and the SDGs will remain out of reach for the very communities they are intended to serve. Therefore, this study ends with a firm recommendation for a paradigm shift. The international community must move from treating translation as a logistical postscript to embracing it as a strategic cornerstone of global governance. This entails:

- Establishing mandatory localization protocols for all SDG-related communication materials.
- Directing dedicated funding streams for professional translation and community-led adaptation.
- Developing training programs to build a global cadre of "eco-translators" skilled in bridging scientific, policy, and indigenous knowledge systems.

The journey toward a sustainable future is ultimately a journey of communication and understanding. By deconstructing the linguistic hegemony that currently stifles it and rebuilding a polyphonic discourse through the principled practice of eco-translation, we can finally ensure that the promise of "leaving no one behind" includes the vast and vibrant tapestry of human languages and the irreplaceable worldviews they hold.

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