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DERIVATIONAL MODELS OF AGRARIAN TERMS: A CONTRASTIVE STUDY OF ENGLISH AND UZBEK

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Abstract

This paper presents a corpus-based contrastive analysis of derivational models in English and Uzbek agrarian terminology. The study investigates affixation, compounding, borrowing, and semantic derivation across 120 selected terms. The findings reveal significant typological differences between analytic and agglutinative systems, highlighting Uzbek's morphological transparency and English's hybrid derivational patterns. The research contributes to terminology studies, translation, and ESP pedagogy.

Keywords

agrarian terminology, derivation, Uzbek language, English language, morphology, contrastive linguistics

Introduction

Agrarian terminology reflects both linguistic structure and socio-economic development. This study explores how derivational mechanisms differ across English and Uzbek. A contrastive study of English and Uzbek agrarian terminology provides valuable insight into how language structure interacts with socio-economic and cultural development. Terminology in the agricultural domain is not merely a collection of technical labels but a dynamic system shaped by historical evolution, technological advancement, and patterns of knowledge transmission within a given linguistic community. As noted by Ingo Plag (2003), word-formation processes play a central role in expanding specialized vocabularies, particularly in fields such as agriculture where innovation continuously generates new concepts requiring linguistic representation.

Methods

A corpus of 120 agrarian terms (60 English, 60 Uzbek) was analyzed. Methods include morphological segmentation, frequency analysis, and contrastive comparison. The present study is based on a systematically compiled corpus consisting of 120 agrarian terms, equally distributed between English (n = 60) and Uzbek (n = 60), selected to ensure representativeness across key subdomains of agriculture, including crop production, irrigation systems, soil management, and agricultural technology. The selection process was guided by principles of terminological relevance, frequency of occurrence, and functional significance within professional discourse, as recommended in Corpus Linguistics (McEnery & Hardie, 2012). The English dataset was primarily extracted from specialized agricultural glossaries and academic publications, while the Uzbek dataset was compiled from domain-specific textbooks, норматив hujjatlar, and terminological dictionaries to ensure authenticity and contextual validity.

To achieve a comprehensive analysis, the study employs a multi-layered methodological framework integrating morphological, quantitative, and contrastive approaches. First, each term

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was subjected to detailed morphological segmentation in accordance with established principles in Morphology, whereby lexical units were decomposed into their constituent morphemes (roots, prefixes, and suffixes). This process enabled the identification of underlying derivational patterns and facilitated the classification of terms according to their word-formation models. Following Martin Haspelmath (2002), particular attention was paid to the distinction between derivational and inflectional morphemes, as well as to the degree of morphological transparency and compositionality in each language.

Second, a frequency-based analysis was conducted to determine the relative productivity of different derivational models within the corpus. Productivity was operationalized in line with the framework proposed by Ingo Plag (2003), which considers both the type frequency (number of distinct lexical items formed by a given process) and token frequency (occurrence of these items in discourse). This allowed for the identification of dominant word-formation strategies, such as suffixation and compounding in English, and agglutinative suffix chains in Uzbek. The quantitative dimension of the analysis also provided insights into the distributional tendencies of specific affixes and their functional load in agrarian terminology.

Third, the study adopts a contrastive linguistic approach, which involves the systematic comparison of structurally and semantically equivalent terms across the two languages. As outlined in contrastive analysis theory (Krzeszowski, 1990), this method enables the identification of both convergences and divergences in linguistic structure, particularly in relation to derivational mechanisms. Each term pair was analyzed in terms of its morphological structure, semantic composition, and degree of equivalence, with special attention to cases of full, partial, and zero equivalence in translation.

In addition to these core methods, the analysis incorporates elements of semantic classification, whereby terms were grouped into conceptual categories to examine how derivational processes interact with domain-specific meaning. This step is consistent with approaches in Lexicology and terminology studies (Cabré, 1999), which emphasize the importance of conceptual structuring in specialized vocabularies.

Overall, the combination of morphological segmentation, frequency analysis, and contrastive comparison provides a robust methodological foundation for examining derivational models in agrarian terminology. This integrated approach ensures both descriptive accuracy and analytical depth, allowing the study to capture not only structural patterns but also their functional and cognitive implications within and across languages.

Results

The analysis of the corpus reveals that English agrarian terminology demonstrates a clear dominance of suffixation and compounding as primary derivational mechanisms. In line with findings in Morphology, suffixation in English is highly productive in forming agentive, processual, and abstract nouns. For instance, the suffix *-er* is widely used to denote agents involved in agricultural activities, as seen in terms such as *farmer*, *harvester*, and *irrigator*, where the suffix attaches to verbal bases to indicate professional roles. Similarly, the suffix *-tion* is employed to form abstract nouns referring to processes or results, as illustrated by *irrigation*, *cultivation*, and *fertilization*. According to Ingo Plag (2003), such suffixes are among the most productive derivational morphemes in English, particularly in technical and scientific registers, where nominalization plays a crucial role in knowledge representation.

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In addition to suffixation, compounding emerges as a central strategy in English agrarian term formation. Compounds such as *greenhouse*, *farmland*, *seedbed*, and *livestock farming* illustrate how multiple lexical bases are combined to create semantically specific and structurally economical terms. As noted by Laurie Bauer (2003), compounding in English allows for high lexical density and conceptual precision, especially in specialized domains where complex processes and entities must be encoded efficiently. Furthermore, many English agrarian terms exhibit hybrid structures that combine native and borrowed morphemes, reflecting the historical layering of the English lexicon (Crystal, 2003).

In contrast, Uzbek agrarian terminology is characterized by the extensive use of productive suffix chains, reflecting its agglutinative morphological structure. Derivational suffixes such as *-chi*, *-lik*, and *-kor* play a central role in term formation, each contributing a distinct semantic function. For example, the suffix *-chi* is used to denote professions or agents, as in *traktorchi* (tractor operator) and *dehqonchi* (farmer), while *-lik* forms abstract nouns or fields of activity, as seen in *dehqonchilik* (farming) and *bog'dorchilik* (horticulture). The suffix *-kor* is typically associated with professional or functional roles, as in *ishlab chiqaruvchi* (producer), although Uzbek often prefers native derivational patterns over borrowed structures.

A key feature of Uzbek derivation is the possibility of stacking multiple suffixes onto a single root, resulting in morphologically complex yet semantically transparent terms. For instance, the term *sug'orishchilar* (irrigation workers) can be decomposed into *sug'or-* (to irrigate) + *-ish* (nominalizer) + *-chi* (agent) + *-lar* (plural), where each morpheme contributes a clearly identifiable meaning. This aligns with observations in Turkic linguistics, where agglutinative languages are characterized by one-to-one correspondence between form and function (Johanson, 1998; Martin Haspelmath, 2002).

Moreover, the frequency analysis conducted in this study indicates that Uzbek suffixation exhibits higher morphological regularity and predictability compared to English, where irregularities often arise due to historical borrowing and phonological variation. While English relies on a combination of derivational strategies, Uzbek demonstrates a more uniform and systematic approach, which enhances both the productivity and interpretability of newly formed agrarian terms.

Overall, the findings confirm that although both languages utilize derivation as a key mechanism in agrarian terminology formation, they differ significantly in terms of structural organization, degree of transparency, and reliance on specific word-formation processes. These differences are directly linked to their typological characteristics and have important implications for translation, terminology standardization, and language teaching in specialized contexts.

English shows dominance of suffixation (-er, -tion) and compounding. Uzbek shows productive suffix chains (-chi, -lik, -kor).

Discussion

Uzbek morphology is transparent due to agglutination. English combines native and borrowed elements, making it less predictable. Uzbek morphology is widely recognized as highly transparent due to its agglutinative structure, in which grammatical and derivational meanings are expressed through the linear and additive combination of suffixes, each carrying a distinct

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and stable function. Within the framework of Morphology, agglutination is characterized by a one-to-one correspondence between form and meaning, resulting in a high degree of segmentability and predictability. As noted by Martin Haspelmath (2002), agglutinative languages such as Uzbek exhibit minimal fusion between morphemes, allowing speakers to easily identify and interpret each morphological component within a complex word. This feature is particularly evident in agrarian terminology, where terms are often constructed through systematic suffixation.

For example, the Uzbek term *dehqonchilik* (farming) can be analyzed as *dehqon* (farmer) + *-chilik* (field/activity), while *bog'dorchilik* (horticulture) consists of *bog'* (garden) + *-dor* (possessor/agent) + *-chilik* (activity domain). Similarly, more complex forms such as *sug'orishchilar* (irrigation workers) demonstrate the stacking of multiple suffixes (*sug'or-* + *-ish* + *-chi* + *-lar*), each contributing a clearly identifiable semantic function. Such structures illustrate what Johanson (1998) describes as morphological transparency, where the internal organization of words directly reflects their semantic composition. This transparency enhances both the productivity of derivational processes and the accessibility of specialized terminology for speakers and learners.

In contrast, English morphology is characterized by a hybrid system that combines native Germanic elements with a substantial layer of borrowed morphemes, primarily from Latin and French. This historical layering significantly affects the predictability of word-formation processes. As David Crystal (2003) points out, the English lexicon is the result of extensive language contact, which has led to the coexistence of multiple derivational patterns with varying degrees of regularity. For instance, agrarian terms such as *agriculture*, *cultivation*, and *fertility* derive from Latin roots, while others like *farmer* and *seedbed* originate from Germanic sources.

This mixture often results in reduced morphological transparency, as the relationship between form and meaning is not always straightforward. For example, the term *fertilization* involves the base *fertile* (from Latin *fertilis*) combined with the suffix *-ization*, yet the internal morphological boundaries and semantic contributions of each element may not be immediately accessible to non-specialist users. Similarly, the coexistence of multiple agentive suffixes (*-er*, *-or*, *-ist*)—as in *farmer*, *tractor operator*, and *agronomist*—reflects a lack of uniformity in derivational patterns. According to Ingo Plag (2003), such variability is a defining feature of English word formation, where productivity is influenced not only by morphological rules but also by historical and lexical constraints.

Furthermore, English frequently employs compounding alongside derivation, producing terms such as *greenhouse*, *farmland*, and *crop rotation*, where semantic interpretation depends on the interaction between lexical units rather than transparent morphological markers. While this strategy allows for high expressive flexibility, it can also introduce ambiguity and variability in interpretation, especially in specialized contexts.

Overall, the contrast between Uzbek and English morphology highlights two fundamentally different approaches to term formation: a highly regular, transparent, and suffix-driven system in Uzbek, versus a historically layered, structurally diverse, and less predictable system in English. These differences have significant implications for terminology standardization,

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translation accuracy, and the teaching of specialized vocabulary, particularly in multilingual and professional settings.

Conclusion

The study confirms structural differences and provides implications for translation and ESP teaching. The findings of the present study confirm that the observed differences in derivational models between English and Uzbek agrarian terminology are deeply rooted in their typological characteristics, namely the analytic structure of English and the agglutinative nature of Uzbek. These structural distinctions are not merely formal but have significant functional consequences for how specialized knowledge is encoded, transmitted, and interpreted within each linguistic system. In line with theoretical perspectives in Contrastive Linguistics, such cross-linguistic variation highlights the importance of understanding language-specific word-formation mechanisms in order to achieve accurate and effective communication in professional domains.

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