

## HISTORICAL AND MODERN LAYERS OF LOGISTICS TERMINOLOGY RELATED TO THE STORAGE AND PACKAGING OF FRUIT AND VEGETABLE PRODUCTS: LINGUISTIC AND COMPARATIVE RESEARCH

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### Abstract

In this article, modern and ancient logistics terms related to the process of storing and packaging fruit and vegetable products are analysed from linguistic and comparative perspectives. The study examines international terms based on the experience of Europe and the USA, as well as their use and interpretation in the Uzbek language. The main focus is on determining the etymology, lexical definitions, lexical-semantic features, and place of terms in the terminological system. Also, the article examines terms related to ancient methods of storing fruit and vegetable products using the example of Uzbekistan, Central Asia, and other countries of the world, and their semantic features are analyzed from a linguistic point of view. Modern logistics terms, including such concepts as Modified Atmosphere Packaging (MAP), Controlled Atmosphere (CA), and cold chain, are studied in comparison with terms related to historical storage methods. The research is based on data from FAO, USDA, etymological and terminological dictionaries, as well as archaeological and botanical sources. The research results serve to illuminate the formation and development of logistics terminology from a linguistic point of view. The article is intended for specialists conducting research in the field of logistics terminology and applied linguistics.

**Keywords:** Modified Atmosphere Packaging (MAP), Controlled Atmosphere (CA), cold chain, "roof storage," "melon house," "kangina," "worm," traditional storage, ancient storage, vegetable and fruit storage.

Logistics terminology is inextricably linked with the historical development of the industry, and its linguistic foundations go back to ancient trade and supply practices. Over time, the development of the logistics system led to the formation of new terms and the semantic expansion of existing ones. In particular, terms related to the processes of storage and packaging of fruit and vegetable products are formed under the influence of global trade and modern technologies and constitute an important part of international logistics terminology. For example, the term "cold chain" refers to a continuous cooling system in the supply chain to maintain product quality.

At the same time, in Uzbekistan and Central Asia, traditional terms related to the storage of fruit and vegetable products, such as "*ura*," "*kangina*," "*kovunxona*," were formed on the basis of historical and cultural experience. A comparative study of such national terms with modern logistics terms is important in determining the historical layers and semantic development of terminology.

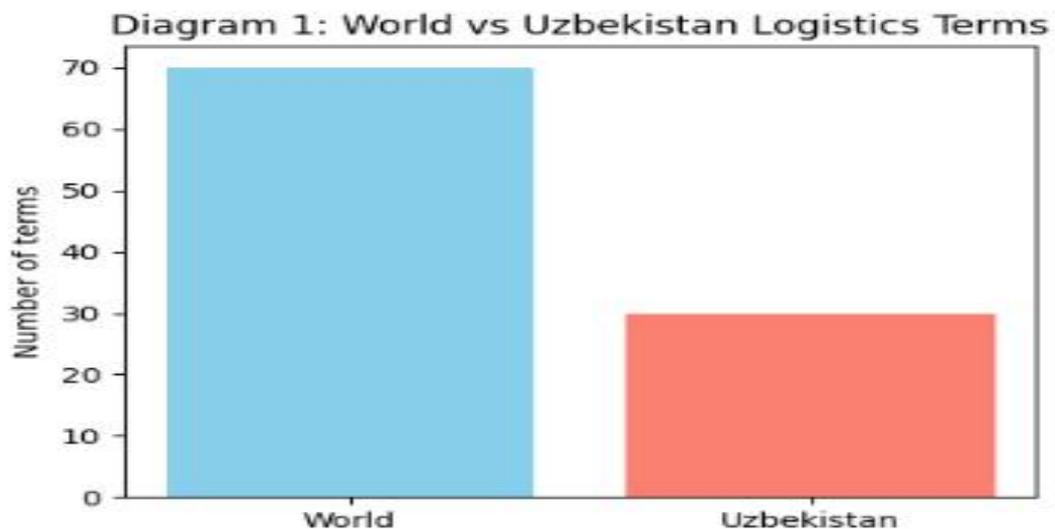
The relevance of this research is determined by the need for linguistic study and systematization of logistics terminology in the context of increasing export volumes of fruit and vegetable products in Uzbekistan. The research used lexicosemantic analysis, etymological research, and comparative methods.

Terminology related to the storage and long-distance delivery of fruits, vegetables, and food products is directly related to the development of the logistics system. Modern logistics terms



have been formed mainly since the second half of the 20th century and have risen to the level of international standards as a result of global trade and technological development. **More than 40 basic logistics terms** related to the storage, transportation, and packaging of fruits and vegetables are used worldwide. Among them, such terms as cold chain, refrigerated storage, modified atmosphere packaging, controlled atmosphere storage, precooling, ethylene control, vacuum packaging are widespread. In Uzbekistan, however, most of these terms are used in translation or adapted form, and in practice 15-20 basic terms are actively used. These terms are mainly found in export logistics, refrigerated warehouse systems, and packaging technologies.

**Diagram 1** compares the share of these terms across the world and Uzbekistan:



*Note:* The diagram shows the total number of terms for the storage and transportation of fruits and vegetables in the world and in Uzbekistan. As can be seen, the terminology of Uzbekistan is still in the development stage and is used at the level of about 40-50% of world experience.

Historical sources and ethnographic research show that terms related to food storage constitute a rather ancient layer in human history. On a global scale, **about 30 terms** related to ancient preservation methods have been identified, which were formed in different regions. For example, such terms as **quritish (drying)**, **tuzlash (salting)**, **fermentatsiya (fermentation)**, **sirka qo'yish (pickling)**, **muzlatish (freezing)**, **ko'mib saqlash (pit storage)** have been used by various peoples since ancient times. In the territory of Uzbekistan and Central Asia, there are **more than 10 traditional terms** related to the storage of fruits, melons, meat and dairy products. Among them, such terms as "*öra*," "*kangina*," "*qovunxona*," "*kurt*," "*qoqi*," "*tandirda quritish*," "*qumga ko'mish*" were widely used in the national economy.

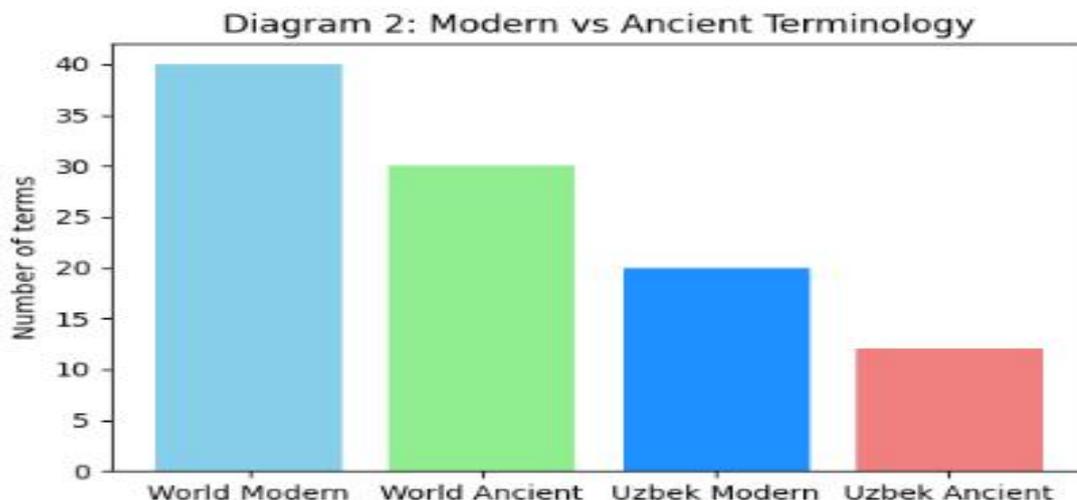
#### **Ancient preservation terms: world and Uzbekistan**

Historical sources and ethnographic research show that terms related to food storage constitute an ancient layer in human history. On a global scale, the number of ancient terms is **about 30**, and in Uzbekistan and Central Asia there are **10-12** traditional terms. Example:

- "*pit*" - a method of burying vegetables in a pit
- "*kangina*" - storage of grapes using mud and straw.
- "*melon house*" - a method of mass storage of melons
- "*kurt*" - dried yogurt



Diagram 2 shows the distribution of modern and ancient terms across the world and Uzbekistan:



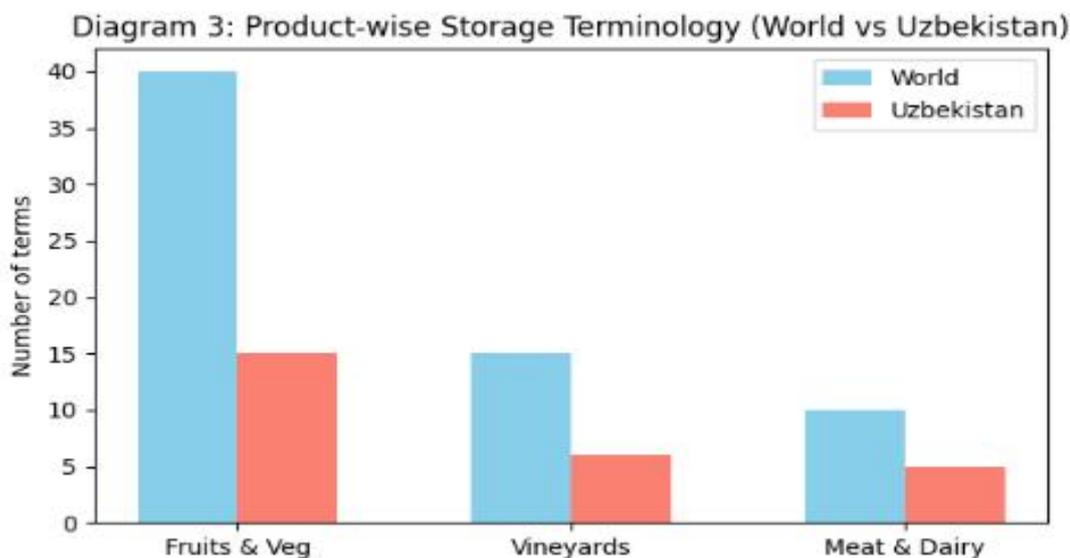
Note: Modern terms are distinguished by technological accuracy and standardization, while ancient terms have an ecologically and culturally rich semantic layer.

**Examples of ancient preservation terms**

Product type	Terms used in the world	Terms in Uzbekistan
Fruit and melon crops	drying, pickling, fermentation	dried fruit, melon house
Vegetables	pit storage, cellar storage	pit, burial in sand
Grapes	natural drying, storage pit	kangina
Dairy products	dried yogurt	worm
Meat	salting, curing	salted storage

**Diagram 3**





The diagram shows the distribution of world and Uzbek terms by product type. World terminology is technologically and functionally broader, while Uzbekistan retains an ecologically and culturally rich layer, including traditional preservation methods.

Analysis shows that:

1. **Modern terms** make up about 70 units worldwide, 30 of which are actively used in Uzbekistan. This demonstrates the possibility of adapting and developing Uzbek logistics terminology to global standards.

2. **Ancient terms** were rich in ecological and cultural aspects and were also effective in delivering products over long distances. At the same time, they are limited in relation to modern terms in terms of technological accuracy.

3. **Depending on the type of product, terms** differ in the experience of the world and Uzbekistan, which is an important source for comparative analysis in terms of logistics and linguistics.

Based on this analysis, it can be seen that in the practice of Uzbekistan, the **hybrid model** - the integration of modern technological systems and traditional methods - is the most optimal strategy for reducing product losses and extending shelf life.

A comparative analysis of modern and ancient terminology shows that while modern terms are characterized by technological accuracy and standardization, ancient terms represent methods based on ecological and natural resources. For example, while the modern cold chain system allows transporting products on a global scale, ancient drying or salting methods allowed storing products over long distances without vehicles. From this point of view, in the development of logistics terminology, two main layers exist in parallel - **modern technological terms and historical-traditional terms**, the integration of which plays an important role in increasing the efficiency of agricultural logistics.

### Conclusion

The study shows that the evolution of logistics terms related to the storage and packaging of fruit and vegetable products reflects linguistic, cultural, and technological processes: modern terms represent global standards and technological accuracy, while ancient terms preserve national experience and methods of environmental preservation. In the context of Uzbekistan, the hybrid model - the integration of modern terms (cold chain, MAP, CA) that meet international standards with national terms ("o'ra," "kangina") - allows reducing losses, increasing energy efficiency, and preserving cultural heritage. In the future, automated



standardization of terminology using artificial intelligence and digital technologies, monitoring of linguistic connectivity, and optimization of translation processes will serve to increase the country's export potential and effectively develop the logistics system.

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