

Agricultural Development Based on Logistic Principles

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Abstract:

The essay discusses the necessity of implementing Agrologistics services on a large scale in agriculture to promote sustainable development in the industry. The organization of agrologistics has received proposals and ideas for addressing various difficulties and weaknesses, as well as suggestions for their eradication.

Keywords: *Agrologistics, resources, supply, infrastructure, transport, production, storage and processing, information, finance.*

Introduction

Agrologistics is a crucial component of the comprehensive advancement of the agro-industrial sector. It encompasses the fields of agricultural production, product processing, and trade within itself. They will have intimate relationships with each other in terms of production, technology, economy, information, finance, labor, and other areas. Within the dynamic realm of products and services, this field focuses on enhancing and controlling the processes involved in the movement of goods. This includes managing information, transportation, and financial aspects, both on a small scale within individual businesses and trade structures, as well as on a larger scale across various sectors of the economy. It is crucial to enhance the process of creating an inventive strategy for the technical and technological advancement of industrial companies in the present day. Currently, the subsequent explanations of logistics are widely accepted: The American Council on Management Problems defines logistics as the strategic management of efficient and cost-effective processes involved in the transportation, storage, and distribution of goods, from production to consumption, while ensuring consumer satisfaction. The British Institute defines logistics as the process of managing procurement activities, including supplier selection, production material supply, reserve placement, and coordination within the supply chain for the distribution of finished products to the consumer.¹ The allocation of resources to enhance the utilization of the warehouse infrastructure for

¹ Gadjinskiy A.M. Logistika. Uchebnik. – Moskva: Izdatel'sko-torgovaya korporatsiya «Dashkov i K°», 2007. – 472 s.

expanding the flow of goods, including various activities and services (such as introducing new products into circulation, developing in-house production of scarce items, and exploring new service offerings) should be consistently increased through additional funding. This enables the reduction of depreciation deductions to the primary classification of tangible and intangible assets specifically designed for the agro-industrial complex.

It is necessary to construct a comprehensive system of measures that guarantee the swift advancement and efficient operation of service networks, as well as agricultural production preparation, storage, and transportation networks. It facilitates the holistic development of integrated infrastructure networks, including transportation, warehousing, and logistics. Infrastructure should be designed with consideration for the growth potential of Agriculture and other sectors within the agro-industrial complex.

The International Development Association participated in the adoption of the resolution of the Republic of Uzbekistan titled "Measures to Implement the Project: Modernization of Agriculture of the Republic of Uzbekistan" (PQ-4803). By these determinations, a capacity of 3 million tons (equivalent to 367 million tons) was established from 2019 to 2024. The government has allocated funds to create 8 major and 39 contemporary agro logistics centers, with a total capacity of 424,000 tons.²

Logistics involves the exploration of methods to reduce expenses by focusing on areas such as procurement, inventory management, and product distribution. It also aims to enhance marketing efforts, foster better collaboration between suppliers and consumers, and improve the efficiency of material flow. The primary objective is to decrease expenses and optimize earnings.

The primary purpose of logistics hubs is as follows: - Acceptance of agricultural products; - Bottling of commodity batches of products; - Organization and implementation of primary processing of the product; - Establishment of wholesale trade in products; - Coordination of product exhibition fairs, marketing events, and harvest festivals.

Although the regions have a significant number of farms, their limited size results in a scarcity of products. To sell the agricultural produce to major purchasers, it is necessary to have logistic hubs that consolidate the products from multiple farms. These centers should possess the essential storage and preliminary processing capabilities to enable the reception of items. Agrologistics plays a crucial role in promoting the sustainable development of agrosanoate. It is imperative to coordinate the Agrologistics service inside the Union of Regional Farms and build a networked relationship with the structures within the Union for product production, processing, transportation, commerce, and other related matters. The Association of Regional Farms should establish a dedicated entity responsible for managing a motor transport service, technical support services for production, processing, and storage, as well as procurement and sale of products. These services are integral components of agrologics.

Based on the data, nearly 98% of the production time in Western Europe is allocated to material and technical aspects, as well as supply routes such as the delivery of raw materials, transportation of finished products, and their placement and storage in warehouses. Only 2% of the total time is dedicated to actual production, while transportation accounts for 50% of the time. Furthermore, the expenses related to materials and technical assistance for all operations in Western European nations

² Resolution of the Republic of Uzbekistan "on measures to implement the project" modernization of Agriculture"with the participation of the International Bank for reconstruction and development and the International Development Association " dated August 11, 2020 PQ-4803.

account for 13 percent of the national gross product. The allocation of this value is as follows: 41 percent is allocated to transportation, 21 percent to product storage, 23 percent to material reserves, and 15 percent to administrative costs.³ Logistics does not have a universally agreed-upon interpretation. The U.S. Logistics Management Board defines logistics as the essential component of management that encompasses strategic, tactical, and operational objectives. Its primary purpose is to fulfill the ultimate consumer demand for products and services by effectively managing the flow of materials and services, while also ensuring the provision of necessary information and financial resources.⁴

It is recommended to categorize agrolistics into four groups in the agro-industrial sector.

I. Production: - Land cultivation; - Planting; - Agrotechnical operations; - Harvesting and plucking.

II. Supply: - Seeds, including novel types, and breeding stock; - Mineral fertilizers; - Fuel and lubricants; - Machinery and equipment; - Spare parts, and other necessary items.

III. Logistics, warehousing, and manufacturing:

- The transportation of goods and other cargo; - The handling of goods, including placement and storage in warehouses; - The establishment and management of greenhouses; - The processing of goods, including packaging and other related activities.

IV. Product sales and marketing operations include purchasing finished products or identifying potential consumers, doing market research, advertising, and developing comprehensive proposals to promote product cultivation among farmers by giving relevant information and support.

Organizing agrolistics based on a framework like this enables the effective resolution of numerous challenges. For instance, a specialist who supplies seeds to farms in possesses a superior understanding of seeds compared to a farmer. Additionally, the logistics service will provide further information regarding the sale of cultivated crops and other related items. This allows for methodical and efficient organization of labor across all areas. Typically, the initial portion indicated above is not encompassed within the operational duties of logistics. If this department also involves the incorporation of agrological principles, agrotechnological measures are implemented vigorously.

For each designated phase, let us examine the objectives of the supply department's activities: As a component of the macro-linguistic system, the supply department establishes economic relationships by negotiating with product suppliers on technical, technological, economic, and methodological issues about the delivery of goods. The supply department maintains communication with the sales departments of suppliers and transportation companies to ensure the enterprise's integration into the macro-linguistic system. To generate additional revenue, employees in the supply department should view their enterprise as an integral part of a larger logistic system, rather than as a separate entity. This approach will help ensure that all participants work together effectively towards achieving the goals of the enterprise. The supply department should not only serve its enterprise but also enhance the overall efficiency of the entire macro-linguistic system. In this approach, the enterprise is considered as a component of the overall macro-linguistic system. If the system situation improves, the condition of the firm, which is connected to it, also improves. In the field of agriculture, if each contractor prioritizes avoiding harm to others and offering assistance whenever possible, in

³ Кальченко А.Г. Основы логистики. – Киев: Знания, 1999

⁴ Елисеев Е. Логистика покрывшая мир. Новая концепция руководства предприятиями // Маркетолог. 2000. №9. –С12-13.

addition to pursuing their interests, the overall performance of the entire farm will also be outstanding.⁵

Qualified personnel are essential for the successful implementation of agro logistics in farm activities. Agrologistics plays a crucial role in various processes such as crop planning, optimizing deadlines, seed selection, agrotechnical processing, harvesting, transportation, storage, processing, and sale. For products to be competitive, participants must adopt a holistic approach to work, treating it as a unified integrated system rather than as separate individual components.

Without the establishment of the agro logistics service, timely eviction of arable land, proper implementation of agrotechnical measures, and timely harvesting, storage, and processing of crops, it is not possible to purchase them and obtain the expected amount of profit.

Currently, the logistics system in the Republic faces several issues, including the absence of a technical and transport service provision system.

- Lack of demand for road and road farm activities in the regions.
- Absence of an established information system for transportation.
- Insufficient availability of warehouses and icehouses.
- Underdeveloped processing industry.
- Inadequate organization of the marketing service, among others.⁶

Based on the collective experience of countries around the world, the establishment and effectiveness of logistics centers should be focused on the following areas: The reduction of reserves in business processes is achieved through the following means:

- Redistribution of reserves between wholesale and retail trade, as well as collection in wholesale links.

- Implementation of advanced backup state control technology.
- Ensuring a high level of coordination among participants to ensure timely replenishment of reserves. Both the existing reserves and insurance reserves are diminishing. The current inventory is created by sacrificing the timely delivery of sets of handy sizes. The buildup of items in a single distribution warehouse leads to a decrease in insurance reserves. For instance, if 100 stores are centralized around a sole distribution warehouse and insurance reserves amass in this location, then, by the square root law, the overall magnitude of reserves will decrease by a factor of 10 without compromising stability in terms of service.⁷

Transport and expeditionary detachments, as well as local agricultural terminals, must be established. Consequently, in addition to the farms themselves, there will be the ability to transport, market, and process the goods derived from tomato farms. The introduction of information consulting services enables the provision of pertinent information to farmers and nurseries.

With the rapid advancement of information and communication technology, it is imperative to swiftly enhance the Agrologistics sector and overcome any delays. To accomplish this, it is imperative

⁵ Logistics and supply chain management : creating value-adding networks / Martin Christopher. – 4th ed. – Great Britain: Pearson Education Limited, 2011. – 276 p.

⁶ Мадалиев А.А. Агросаноат секторида илмий-техник тараққиёт ва инновацион ривожлантириш концепцияси. – Т.: Наврўз, 2020. 167-168 бетлар.

⁷ “Iqtisodiyot va innovatsion texnologiyalar” ilmiy elektron jurnali. № 4, iyul-avgust, 2017 yil 6 № 4, 2017 www.iqtisodiyot.uz

to implement digital agrology in the agricultural sector.⁸ The second part of this monograph thoroughly explores the fundamental aspects of the digital economy, providing all the necessary circumstances and opportunities. Furthermore, it is feasible to create a computerized Agrologistics system utilizing this paradigm. It is recommended to actively promote the notion of cost-effective production, which involves reducing losses by implementing new trends in agro-industrial operations and optimizing management processes. In this scenario, agro logistics is considered an integral component of a cohesive supply chain that influences the level of production intensity and entrepreneurial activity. It is specifically focused on meeting the demands of agricultural product consumers. By aligning the logistics process with consumer demand, cost savings can be achieved. Efficiently attracting industrial and transport resources specifically for a particular order will be essential.⁹

The most promising areas of agro-logistics can be identified as follows:

- Tactical and strategic planning in the agro-logistics chain.
- Evaluation of the effectiveness and synchronicity of cooperation among agro-logistics chain partners.
- Risk assessment and management in the supply chain.
- Formation of an innovative background through the utilization of various economic and mathematical methods and models.
- Active utilization of Information Technology. To get the aforementioned outcomes, it is crucial to establish a well-structured agrologistic chain. The importance of complicated agro-industry growth and agro-science lies in our state's hesitancy to join the World Trade Organization. Without the development of the Agro-industry complex, the stable growth of the sector remains challenging. Currently, there is a comparable situation occurring in the agro-industrial sector. Within the field of Agriculture, numerous organizations operate independently, each with its own distinct set of activities. These include farms, machine tractor parks, water users associations, and supply organizations. Their cooperation lacks interdependence. Due to their distinct frameworks, the approach to work varies. This does not satisfy the precise criteria for cultivating genetically distinct crops. Hence, agricultural growth continues to be a challenge. The establishment of community associations is crucial for the integrated development of agro-industry, as it facilitates the coordination and collaboration of various structures involved in this complicated process. Within this context, a significant level of synchronicity of actions takes place, playing a crucial role in the process of advancement.

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