



THE STATE OF RAW MATERIALS FOR THE FOOD INDUSTRY IN THE ARAL SEA, ITS PROBLEMS AND WAYS TO SOLVE THEM

Eshmuratov Marat Tangatarovich¹

¹assistant of the department "Chemical technology"

Sabirova Diana Ruslan kizi²

²2nd year student of KSU

<https://doi.org/10.5281/zenodo.7430890>

Abstract. The article aims to investigate raw materials for food industry in the condition of The Aral Sea. Furthermore, it also states the problems of raw materials for food industry and tries to implement methods to solve them. The findings of the research delicts that raw materials for food industry is rather good condition in the Aral Sea. The result of the research showed that the main problems in raw materials for food industry is the soil degradation and salty land of the Aral sea. Therefore, the solution for these problems are given in this article.

Keywords: food industry, raw materials, Aral Sea, condition, problems, solutions, methods.

Introduction

The Aral Sea is an immense natural and historic area of Eurasia, whose geographical position and orography have created a spectacular and highly diverse region with sharply-contrasting features. The region has a complicated geomorphology, ranging from the vast Turanian Plain to tremendous mountain ranges joining it in the south and southeast, with peaks reaching 6000 to 7000 meters and higher. The plains take up about 80% of the total area of the basin, while the mountains occupy only 20%.

The food industry today has become highly diversified, with manufacturing ranging from small, traditional, family-run activities that are highly labour intensive, to large, capital-intensive and highly mechanized industrial processes. [1.1369-1381]. Many food industries depend almost entirely on local agriculture or fishing. In the past, this meant seasonal production and hiring of seasonal workers. Improvements in food processing and preservation technologies have taken some of the pressure off workers to process food quickly to prevent spoilage. This has resulted in a decrease in seasonal employment fluctuations. However, certain industries still have seasonal activities, such as fresh fruit and vegetable processing and increases in production of baked goods, chocolate and so forth for holiday seasons. [2.103-110].

Storage of raw materials is most important in a seasonal industry (e.g., sugar refining, brewing, grain processing and canning). It is usually done in silos, tanks, cellars, bins or cold stores. Storage of the finished products varies according to their nature (liquid or solid), the method of preserving and the method of packaging (loose, in sack or super sack, in bundles, boxes or bottles); and the respective premises must be planned to suit the conditions of handling and preserving (traffic aisles, ease of access, temperature and humidity suited to product, cold-storage installations). Commodities may be held in oxygen-deficient atmospheres or under fumigation while in storage or just before shipment.

Food industry in the Aral Sea can be segmented as follows

- Fruit & vegetable processing
- 1. Milk & milk products

1. Fish, poultry, eggs & products
 - Meat & meat products
 - Bread, biscuits & other bakery products
 - Edible oil/fats.[6.421-429].

At present most of the industries are in unorganized sectors. So, number of problems are arising from different sections of the industries. Some of the basic problems encountered by Aral Sea food industries of raw materials at different levels are given below.

Reasons of the condition of raw materials for food industry in the Aral Sea:

- The high cost of packaging pushes up the cost of the processed items and thereby makes them out of reach of the common man.[3.201-208].
- Karakalpaks traditionally prefer fresh foods that are cooked rather than use preserved foods.
- There is also no national character for food habits and these keep changing from region to region.
- Modernization is unaffordable for small-scale manufacturer but the large companies do not find investment justifiable due to small size of the market.

- Supermarkets are not yet popular although a few are making an appearance.

Challenges of raw materials for food industry:

- Extensive use of fertilizers, pesticides and other chemicals has raised concerns about the quality of food which should be looked into. Further, protection is needed from unfair and hazardous practices such as adulteration.[4].
- Limited ability to control quality and safety: The sheer number of players, especially in the large unorganized segment, involved in the food value-chain, makes implementation of quality and safety norms difficult. This has led to practices such as milk adulteration and use of carbide for fruit ripening becoming more widespread.
- Low consumer awareness: Consumer awareness is a critical aspect of an improved nutritional situation in the country. Consumers currently lack awareness of several nutritional and food safety and quality aspects.

Suggestions of raw materials for the food industry:

- Storage capacities and infrastructure should be increased.
- Develop the agricultural facility with good agricultural practice which leads to the transition from staple food crops to diversification of crops.
- Backward linkages to farmers need to be made more robust.

Conclusion. Taking into account the above-mentioned data, it can be concluded that the raw materials of food industry in the Aral Sea condition are rather in a good condition. Therefore, the new methods should be implemented to solve the problems connected with salty land and soil degradation. This is due to the fact that raw materials are essential for industry. Not only it affects to the economy of the country but also the lifestyle of the humanbeing.

References:

1. Devalkar, S.K., R. Anupindi, and A. Sinha. 2011. "Integrated Optimization of Procurement, Processing, and Trade of Commodities." *Operations Research* 59:1369-1381.
2. Haley, T.A., and S.J. Mulvaney. 1995. "Advanced process control techniques for the food industry." *Trends in Food Science & Technology* 6:103-110.

3. Lowe, T.J., and P.V. Preckel. 2004. "Decision Technologies for Agribusiness Problems: A Brief Review of Selected Literature and a Call for Research." *Manufacturing & Service Operations Management* 6:201-208.
4. Lusk, J.L., and J. McCluskey. 2018. "Understanding the Impacts of Food Consumer Choice and Food Policy Outcomes." *Applied Economic Perspectives and Policy* 40:5-21.
5. Moheb-Alizadeh, H., and R. Handfield. 2018. "The Impact of Raw Materials Price Volatility on Cost of Goods Sold (COGS) for Product Manufacturing." *IEEE Transactions on Engineering Management* forthcoming.
6. Rong, A., R. Akkerman, and M. Grunow. 2011. "An optimization approach for managing fresh food quality throughout the supply chain." *International Journal of Production Economics* 131:421-429.

