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SANAYİ DEVRİMİ SONRASINDA KENTLERE GIDA ARZININ GELİŞİMİ

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Özet

Sanayileşmiş ülkelerdeki nüfusun büyük kısmı Sanayi Devrimi öncesinde kırsal bölgelerde tarımla uğraşmaktaydılar. Tarımsal üretim de ticari olmaktan çok büyük ölçüde geçimlik ekonomi sınırları içinde yapılmaktadır. Tarımda mekanizasyon ve suni gübre gibi girdilerin kullanımı yetersiz olduğundan büyük miktarlarda ürün fazlası oluşmamakta, öte yandan ortaya çıkan fazlanın kentlere taşınmasında da güçlükler bulunmaktadır.

Ancak, Sanayi Devrimiyle birlikte kırsal bölgelerden kentlere göçün yanı sıra, tarım teknolojilerinde yaşanan gelişmeler, tarımsal üretimde büyük verimlilik artışları ortaya çıkarmıştır. Diğer yandan, buharlı trenin kullanımıyla birlikte tarım ürünlerinin kırsal bölgelerden, nüfusu gittikçe artan kentlere taşınması kolaylaşmıştır. Böylece, kentlerde artan gıda talebinin karşılanması zaman zaman kesintilere uğrasa da mümkün olmaya başlamıştır.

Bu çalışmada, öncelikle, Sanayi Devrimi öncesinde kentlerin gıda arzı sorunu üzerinde durularak, sanayileşmeyle birlikte kentlere gıda arzı koşullarının nasıl bir değişimden geçtiği ele alınmakta ve kentlerin gıdaya erişimini kolaylaştıracak ve sürdürülebilir kılacak kent bahçeciliği gibi örneklere yer verilmektedir.

Anahtar Kelimeler: Gıda Arzı, Kentler, Tarımsal Fazla, Sanayi Devrimi, Kentlerin Gelişimi.

DEVELOPMENT OF FOOD SUPPLY OF THE CITIES AFTER THE INDUSTRIAL REVOLUTION

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Abstract

It is generally accepted that the cities emerged from the rural communities producing the sufficient amount of food products to increase agricultural production and it saved the craftsmen from working in the agricultural fields. According to that idea the reason of establishing cities is the achievements of farmers to have a surplus of agricultural production. An alternative idea is; cities were found and established by the craftsmen although they survived with the agricultural surplus. Organised and intensive agriculture is the outcome of the well established cities.

The Industrial Revolution increased the urban population while the rural population decreased as less people worked in the agriculture and more in industrial complexes and premises. Moreover, the technical improvements of the industrial revolution allowed the extensive cultivation that required less input for a large area of land. Therefore, food supply of the cities became a major issue as the cities were densely populated and agricultural production started to play a key role.

The paper analyses the development of the food supply of the cities after the Industrial Revolution and the food provision after the second part of the eighteen century. The analysis will be on the historical perspective of the urban and rural settlements and how they interacted over centuries and the significance of the agricultural surplus.

The aim of this paper is to find out how cities fulfilled the food supply requirement within the massive development of urban areas. Number publishes documents are articles are analysed for this purpose together with some reports of some international organisations focusing on food and agriculture policies of various governments. Main findings of the paper are food security, significance of the arable land and sustainability of food safety.

Keywords: Supply of Food, Cities, Agricultural Surplus, The Industrial Revolution, Development of Cities.

Introduction

Developed and developing countries have gone through the transformation from the agrarian to the industrial societies. The Industrial Revolution spread first to the European continent and then to the other parts of the world. The overall effect of the Industrial Revolution is to the industry and concentration of the factories as well as the agriculture.

Majority of the population was employed in agriculture before the Industrial Revolution that is called pre-industrial agriculture which was based on subsistence economy. Farmers were not rising for trading but for their own consumption. There were very few towns and urban population was very small. Farm yield was very limited, artificial fertilizer and machines were not introduced, commercialization of agricultural yield was very low and mainly consumed in household, production surplus could hardly move to the cities. After the Industrial Revolution new techniques were introduced into all sectors as well as agriculture. New technologies led to have new techniques in farming.

There are social and economic changes of industrialization and the Industrial Revolution that had a significant impact over the development of the cities as well as the food provision for the growing population. Type of the production changes and distribution and availability of the agricultural products increased. The Industrial Revolution created cities and the requirement of food supply.

The Industrial Revolution changed the production and distribution and of foodstuff as well as the rural and urban settlement that experienced huge growth of railways expansion in cities. With a rapidly increase in population, particularly in cities, the food supply turned to be crucial.

Large factories in urban areas were a major development of the revolution and it required the employment from the rural areas that was mainly workforce from the farm of countryside. Small villages or towns grew into big industrialized cities and required more food supply which is not only the increase in the yield but also processing, transporting and distributing the food to the consumers.

As the composition of the urban and rural areas changes in terms of population, food supply to the city became significant and the proportion of food transported into the cities increased.

The paper first focuses on the food supply of the cities before the Industrial Revolution and changes with the increased in industrialization. Significance of agriculture, industrialization, transportation and population growth and their impact on food supply analyzed. Finally, urban farming with the focus of industrial requirement analyzed.

Food Supply Before the Industrial Revolution

Before the industrialization the production and consumption of the food were in the same village or town that the agricultural products were not commercialized and agrarian economy was based on the subsistence farming. There were not many urban concentrations as well as long-distance transportation of foodstuff.

Catalhöyük is symbolizing the very first transition from nomadic-hunting life to the establishing cities. Farmers were supported with the equipments that were produced by the craftsmen in order to produce sufficient agricultural products to feed the growing population by the urban administration. Sumerian cities were having a complex structure with priests, managers, craftsmen, traders, farmers and slaves. Therefore supply of agricultural products required the farmers to have an efficient agricultural system. The city states of ancient Greece formed a network of trade routes as they could not produce sufficient grain for themselves. Threat of scarcity was one of the most important problems of the ancient world. Growing population of the Roman Empire made the provision of the cities more important and complicated. It was not only an economic but also a political problem and therefore it was not left to the private entrepreneurs but the urban administration shared the responsibility of supply of food.

Various cities of the middle ages were connected with a large trading network and traders persuading profit were meeting the needs of the cities. Agricultural supply and feeding the cities was under the responsibility of city authorities in monarchies and of the trusted merchants in republics.

With the Industrial Revolution, the cities grew and many new cities established that increased dependence on agricultural areas outside the city in terms of nutrition. While this was generally not a problem during the normal growing periods, turned to be a major issue during the war times that generally cities were facing the problem of starving as the agricultural production would drop and the regular trade routes would be blockaded.

In the traditional societies that were mainly in rural areas and in small towns the subsistence agriculture created some risk if the production drops to a certain level or if the population increases before the Industrial Revolution. The drop in the production or a rise in population would bring shortage in the society as transportation facilities were very limited. By the end of the Middle Ages, Europe had lived the Neolithic age (the first agricultural revolution), antiquity and middle age agricultural revolution and these three agricultural revolutions caused the birth of the three types of agriculture; slash and burn farming, crop rotation with light non-wheeled plows and wheeled plow. From the 16th to the 19th centuries many regions in Europe were affected by the Industrial Revolution and experienced a new agricultural development that is called 'Modern Age First Agricultural Revolution' and this revolution motivated dry farming.

Changes With the Industrial Revolution

The Industrial Revolution took place in England at the end of the nineteen century. By the Middle Ages, European countries were advanced various economic fields compared with other continents that there were some important technological inventions, discoveries as well as new agricultural methods (Dumont and Rosier, 1969, pp. 26-27).

After the 1800s, major European countries such as the Great Britain, France, Belgium, and Germany started to be industrialized by using machine power in production and the production carried out in factories in big cities. The revolution brought machine power in all fields and for the agricultural production, lack of human factor substituted by the machine power that enlargement of the agricultural production increased availability for the cities. Changing in production system also provided different agricultural products and improved the level of diet that is a better quality of life.

Technical improvement brought the option of transportation of goods and agricultural goods over borders and regions. Hypothesis of Thomas Malthus implied that "the population growth always exceeds the growth of means of subsistence. Population growth is higher then the food supply and therefore attempts to ameliorate the condition of the lower classes by increasing their incomes or improving agricultural productivity would be fruitless.'' However, with the help of the industrial improvement, population growth could be fed with the food supply that agricultural production could exceed the expectation.

It is accurate to say that there are only the positive outcomes of the Industrial Revolution; although it created wealth for the states and increased the wellbeing of the citizens.

An effect that is closely related with the agriculture that the availability of different professions and freedom to work in different industries. As people started to work also more and more in different fields outside of the agriculture, the food supply and sufficiency in the production turned to be crucial for all and particularly for the cities where the population grew dramatically. Technological improvement made the production and farms more productivethen before and made it more available.

The first great change was the human and animal labor was replaced by steam, then gas and electricity. The second change was to machinery: there was an unstoppable flow of new inventions and techniques. The third change was to the scale of production. Size of the industries changed and large factories were replaced the small workshops and started to employ more and more workers. The fourth change was the transportation facilities that railway and canal systems allowed the rapid transportation of resources into industrial areas and finished products to markets (Woollacott, 2012, p. 45.)

Until the eighteenth century, the power came from humans or animals such as horses or from natural forces like wind and water. To complete more work, people needed a new and more powerful form of energy. They found it in the power of steam. (Woollacott, 2012, p. 49)

Significance of Agriculture for the Industrial Development

Significance of agriculture comes from subsistence of the population and being the input of some sectors such as textile industry and manufacture before and after the Industrial Revolution. However it was almost the only way of experiencing the industrialization and increase in urban life has transformed the role of agriculture for the national economy.

Until to the sixteen century cities were the only trade and industrial centers. It was suchan extent that rural areas were not allowed to involve in industry and trade related sectors. There was a certain division of labor between towns and the rural areas. Rural areas were engaged only agriculture and cities trade and handicrafts. The most urgent need of the cities was feeding the population and therefore they needed to resort both to the surrounding rural areas and large scale trade in order to supply the demand of the city population.

First and foremost food providers of the people in the cities were the peasants in the surrounding area and villages. There was a relationship in between villages and cities that based on the best interest of the former and requirements of the latter. Rural areas fed the cities that created concentrated centers, while the demand for urban growth increased, rural areas

increased their surpluses to meet the ever-increasing consumption for the growth in cities and they as well made provision against the increase in demand.

Agriculture and food supply of the cities were crucial for the continuity of the industries and the city life as they were not self-sufficient in food. Furthermore, agriculture and animal husbandry was important for the textile industry that was providing the raw material for the clotting industries.

From the very beginning of the Industrial Revolution to the modern cities, the city governments have had to regulate the import of food items, not only to provide them to the urban population in addition, to take precautions against the risk of arbitrary increase in prices and monopoly. The city's residents have benefited from two measures to ensure cheap and abundant food.

Over the centuries after the Industrial Revolution workers moved from the rural to the urban areas that industrial factories managed to have required labor. The move to the industrial centers caused by a revolution in agriculture as usage of newly invented machines made many workers unemployed but available at the same time that they moved to the industrial areas for a new job.

Transportation and Food Supply

During the pre-industrialization the majority of the population was living with their owned produced agrarian products and possibilities of trade were limited due to the underdeveloped transport system (Teuteberg, 2007, p. 14).

The change in agriculture over the last 200 years would have not been possible without technological improvements in transportation. Transport of the foodstuffs over the long distances was slow and costly before the Industrial Revolution and therefore impractical that has important consequences to the agricultural economy and economy in general. Because, before the technical advancement it was either not possible or costly to provide sufficient food to far distance cities, establishing of cities were late and as well as limited. Therefore little amount of agricultural products commercialized and could be moved to the cheap costal shipping trade (Wolman and Fournier, 1987, pp. 95-96).

Industrialization had a radical influence on the quality and quantity of food supply that increased the availability of the food but insufficiency in trade routes made long distance commerce difficult. Previously, goods were moving by animal and human power on limited

quantity. Waterways or canals were used for bulky goods and mostly goods were available only for those near the waterways. The new type of transportation, the railway system, increased the expansion of the agricultural products that increasing the availability of railway transportation made the food supply available for the cities and far distances whereas goods were shipped through the waterways only to the waterfront regions.

Transportation facilities also increased the availability of urban settlements that People could make a living outside of the agriculture in big concentration of factories and have sufficient food. Technological development brought a new form of transport which were railroads and canals and increased the opportunity of movement of heavy goods over long distances and to the cities. The steamboats in canals or rivers and the railroad offered transportation to far distances and particularly railroads experienced rapid growing. Free market and advances in transportation allowed to carry foodstuffs and raw materials across the continent easier. Railways allowed the establishment of dairy regions to provide foodstuff for the cities. Therefore hypothesis of Thomas Malthus proved to be wrong as agricultural production exceeded expectations.

Modernization of the transport and communication system meant that plain and daily foodstuff like cereals and frozen meat were carried by railways and steam ships from other continents for the first time in the history (Teuteberg, 2007, p. 15).

Population Growth and Intensification of Output

Before the Industrial Revolution in agrarian societies there was a low rate of population growth due to the high dead and high growth rate. On the contrary, in the industrial societies low birth and dead rate accelerated the population growth (Dumont and Rosier, 1969, p. 29).

Prior the revolution, increasing rate of the world population was low although there were not population censuses in many countries or they were not reliable. Increased in population in many countries occurred after the second part of the eighteen century that had a positive and a negative effect to countries. One is the large supply of labor for the industrial factories, the other is the necessity to feed the growing population working outside of the agriculture and do not have any contribution to the food supply. Therefore productivity in agriculture turned to be a very critical issue. Productivity allowed the workers to leave agricultural fields and work in the factories in the cities with the sufficient food supply from the farms. Labor-saving machineries increased the production in agriculture made them self sufficient in foodstuff.

Table 1: **Rural and Urban Population in the United States, 1860-1920**

YEAR	RURAL (MİLLİON)	URBAN
1860	25	6
1870	28	10
1880	36	14
1890	40	30
1900	50	42
1910	51	54

Source: UN Population Division, World Population Prospects, (https://population.un.org/wpp/)

The population of the Great Britain where the revolution took place first increased dramatically that from 1770 to 1840, the population reached to 15.9 million from 7.4 million. However the increased in population brought an increased in standard of living, it did not show equal among countries and in different social groups within a country. The increase in population was the result of a new healthier generation with higher wages and better food options (Woollacott, 2012, pp. 45–46).

Table 2: **Distribution of World Population by Region, 1800 to 2000**

WORLD (MİLLİONS)	1800	1900	2000
Africa	10,9%	8,1%	13,3%
Asia	64,9%	57,4%	60,7%
Europe	20,8%	24,7%	11,8%
Latin America	2,5%	4,5%	8,6%
Northern America	0,7%	5,0%	5,1%
Oceania	0,2%	0,4%	0,5%

Source: UN Population Division, World Population Prospects, (https://population.un.org/wpp/)

'During the past two centuries, the regional composition of the world's population has changed markedly, a consequence of differences in rates of demographic growth. Northern America, for example, increased its share of world population sevenfold from 0.7 percent in 1800 to 5 percent in 2000, largely due to immigrants and their descendants. The United States alone received an estimated 66 million legal immigrants, largely of European origin, over this period, a number many times greater than the Native American population in the country during that period. Today, immigrants represent close to 15 percent of the US population.' (Chamie, 2020)

Increased in population occurred with the transition to industrialization, urbanization and agricultural revolution accompanied the Industrial Revolution and technical developments diffused to farming activities and it reduced required number of worker on farmland. Therefore, farmers moved to the cities and created the labor force of newly created factories. New techniques allowed the farmers to increase productivity and the efficiency in land use and these advanced techniques helped to feed a rapidly growing population in cities.

Within the technological changes both the population increased and faming started to employ less labor. Therefore to sustain the population growth, agriculture needed to supply food for the increasing numbers. Conversely, population growth requires changes in cultivation that is either more intensive use of land or expanding the area under cultivation (Boserup, 1965, p.15).

Prior to the nineteen century agricultural yield was limited and slow, arable land expansion, which was the way of increasing the output, was the primary response to the population increase and the requirement of feeding the cities. Moreover, industrial inputs such as chemical fertilizer were not available and breeding of higher yielding crop varieties had occurred around the same period (Wolman and Fournier, 1987, p. 88).

Industrialization and its Impact on Food Supply

Industrial development first sustained by the agricultural growth but soon became autonomous, scientific development and industrial technology stimulated agricultural growth later. Chemical fertilizing in the nineteen century and motorization and mechanization in the twentieth century are important results of industrial progress (Dumont and Rosier, 1969, p.28).

World urban population outnumbered the rural population for the first time in history in the year 2008. Urban population is expected to be 60% by the year 2030 and the (FAO, 2010).

The Industrial Revolution and industrialization was accompanied by rapid population growth that increased the demand for food. Moreover, industrialization increased urbanization and number of people living in cities that were depended on the food supply of rural areas. The dependency for food increased the commercialization of agricultural yields and decreased subsistence farming (Wolman and Fournier, 1987, p. 90).

Food, the City and Urban Farming

After the effects of the Industrial Revolution have felt in the human life, cities particularly Berlin, London, Moscow, Paris, Rome and Vienna were urban European industrial cities and their size and population meant that supply of foodstuffs was complex. Their problem of food stuff required the involvement of the policymakers, the state, municipality as well as town dwellers into providing and distributing the food for the city. Long distance transportation of foodstuff to the markets in the towns might result the stales of the food on arrival. "*Food history has been a constituent part of modernization and food has shaped European urban life just as cities have influenced the systems of supply and the shifting currents of consumption*" (Atkins, 2007a, p. 1.) For a modern communal administration, supply the daily fresh food was one of the most urgent tasks and urban statistics played an important role in estimating the need (Teuteberg, 2007, p. 20).

Increased in population and increased number of people employed in industrial areas created food shortages and the production of foodstuff did not increased at a faster rate compared with the population. It is a necessity to have a well functioning structure for the food supply of the cities as they have been growing with area and population and new cities have been created. Food supply and distribution of the food is a crucial issue by the beginning of the century, 10% were living in the cities but today as many people moved to the cities the population is more then half of the total (Atkins, 2007a, p. 2.)

The city had to establish its own market and guaranteed its supply of foodstuff. By the mid nineteen century, more markets were opened in cities with more them 100000 inhabitants. In 1885 in Berlin, there were about 20 different weekly markets and the largest one was having 1300 stalls (Teuteberg, 2007, p. 17).

Urban agriculture takes place in the contest of other urban activities particularly the local economic and management system. However it has existed throughout the history and played an important role both in feeding cities and in recycling urban wastes, urban farming thought to be a solution to the city food supply since industrialization and urbanization accelerated in last two centuries (UNDP, 1996, p. 12). Urban agriculture has been shown as analternative to the rural agriculture as it has some transportation cost, getting the product to the market while they are fresh, packaging etc. On the contrary, urban farming requires less distribution system and middlemen, packaging and storage.

According to Kropotkin, by the beginning of the twentieth century, the cities could feed themselves and having a new production system around Paris if everyone in the city could work for it. He claimed that not only vegetables, fruits and cereals but also food of animal origin could be produced by the people living in the city. This production could be carried out by 10000 people from different groups of professions and they could feed 3.5 million people living in Paris and surrounding (Kropotkin, 1972, pp. 276, 285-287).

"*Urban farming makes increasing sense in today's urbanizing world. It is a realistic and necessary practice for the 21st century. As urban farming gains recognition as an industry with a role to play in the sustainability of cities and the sustenance of their residents, its full potential will become more achievable*." (UNDP, 1996, p. 22)

Countries developed a sophisticated foodstuff supply and distribution system to feed the cities and continue with the urban life. The introduction of the steam powered railways and ships allowed moving of the perishable foods such as fish and meat over the long distances without loss of quality and variety of foodstuff available of the cities volumed the supply (Atkins, 2007b, p. 25). However the sophistication in food supply system the cities failed to avoid food crisis due to the failure in harvest on a particular year and famine, wars and political regimes that failed in supply system, failure in food policy and planning, an increase in population in an unaccepted way.

However urban farming has income, employment and environmental benefits it might be understood as a backward of the cities, there may be some regulatory obstacles such as confiscation of the farmer's products and harassment over the farmers. According to the FAO the role of the city authorities as well as the government is thought to be crucial. The contribution and responsibility of the authorities and the government are as follow; urban and

transport planning, organizing the public health professionals, designing the market, establishing micro credit programs for traders, providing land for the urban farmers, etc (FAO, 2010). On the other hand, the supply systems of large cities have number of difficulties even in the peace time and the self provision of agricultural products of the cities within its border played a limited role in the supply system. Therefore cities dependent on the countryside and their farm supplies in the surrounding (Schmidt, 2007, pp. 64-65).

By the end of the nineteen century, the concept called garden city and outspreaded to the other European countries by the second part of the twentieth century (Benevelo, 2006, p.191). In the twenty first century the concept garden city came to order particularly for ecological reasons. Although the Industrial Revolution relieved the problem of supplying food to the city, the urban farming in some certain part of the cities still continued.

After the industrialization affected the cities, a new food industry and a supplied system created with the motives of merchantile interests that helped the supply of food to the cities. From the agricultural to the Industrial Revolution, the number and population of the cities increased and farms contributed to the increase and they orientated themselves by increasing the production that is the food supply (Reader, 2007, p. 147.)

In the year 1800 the population of London was over 800.000 and the number doubled by 1850. The daily need of such city was at least 4 billion calories if consumed only carbohydrate. If this need consumed only by bread, it was more than 7 million loaf of bread, one kilo each however, the requirement of a healthy diary system is also protein, vegetables and fruits. Although feeding a city was a great attempt, it was not planned centrally, conversely it was based on the requirement of the city, determined by the market forces, demand and supply, and manipulated by the enterprising spirit with the profit motive (Quarterly Review, 1854 cited in Reader, 2007, p. 148).

It was a very competitive mechanism rather then the central government that was bringing all the necessary food together to feed a population of over half a million in London. Mechanization has created an extraordinary changes brought by the Industrial Revolution in agricultural practices. With these new methods, together with the abundant agricultural products, the amount of livestock could be increased. But at a certain point, the demand far exceeded the supply where pre-industrial farming and marketing practices existed. Foreign good dependence of German cities during the World War First increased essentially. Berlin was a city with a population of 800 thousand when it was the capital of Germany in 1871 and the population reached over 2 million in 1910 and made it the most densely populated city of

the time. In 1914, Berlin's population increased two-fold by the beginning of the war and had reached 4 million. German total population reached to 67 million by 1871 from 40 million by 1914 while industrializing and two-thirds of the population was in urban areas (Reader, 2007,s. 169.)

However, this demographic transition did not accompany by the food production to feed everyone and while some cities got wealthier such as Bremen, Essen and Stuttgart the agricultural production was before the Industrial Revolution levels. Therefore the production gap of the country needed to close by import and by 1914, Germany imported one-third of all food requirement. As a result between the years 1871 and 1914, the German population increased 60% while food imports increased more than 500% and in that sense it presents a very unique and interesting case among the European countries (Reader, 2007, s. 170).

Urban farming gained importance after the Second World War that has accelerated throughout the world big industrial cities. Surveys indicate that in Moscow between the years 1970 and 1991, there has been a shift of families into agricultural activities from 20% to 65%. In the United States, one-third of the dollar value of the agricultural product is produced within urban areas (UNDP, 1996, p. 25).

Conclusion

The Industrial Revolution brought changes in economic, political and social lives as well as in production system which created wealth for the countries and the people. Improvements brought by the Industrial Revolution effected agriculture and food supply that made it possible to feed the people in rural and urban areas with big industrial centers. Therefore, workforce could move to the urban areas for being industrial workers and lack of labor force in agriculture did not create a shortage in food supply.

The Industrial Revolution changed the countries from a rural to an urban society, new jobs for the working class created in cities. Thus, farm workers saw better earning and living opportunities in the cities and the revolution brought immigration to the other countries Europe.

Technical changes allowed agriculture to feed the people that were in the industrial centers which also accelerated the economy and industry and therefore industrialization and urbanization increased the importance of rural-urban relations. Changing the distribution of population was one of the most important outcomes of the Industrial Revolution. Urban growth

and urbanization increased the percentage of population living in cities which required the intensification in farming and expansion of the arable land around towns for feeding the towns.

Urbanization increased food demand in cities and affected the supply structure in the countryside as it changed the type and the level of food demanded. The changes and urbanization happened in a rapid rate in Europe comparing the other continents and regions. But in all countries with an increased in urbanization a problem of feeding the crowds turned to be a major issue. Therefore, transporting rural products to the urban areas, having the food sufficient for all industrial population brought the problem of feeding the cities. Increase in transport options and having fast transportation facilities increased food security but did not bring a final or permanent solution. Hereby some cities tried to help the production and distribution system and feed themselves by producing the necessary foodstuff that is called urban farming. Urban farming occurred as an alternative solution to the food supply of the cities and some scholars claimed to be a solution while others focuses on some regulatory obstacles. Urban farming activities accelerated after the Second World War by the majör world industrialized cities.

REFERENCES

Atkins, P. J., 2007. 'A Tale of Two Cities': A Comparison of Food Supply in London and Paris in the 1850s. In P. J. Atkins, P. Lummel, D. J. Oddy. Food and the City in Europe since 1800. England; Burlington: VT: Ashgate, pp. 25-38.

Atkins, P. J., Oddy, D. J., 2007. Food and the City. P. J. Atkins, P. Lummel, D. J. Oddy. Food and the City in Europe since 1800, England; Burlington: VT: Ashgate, pp. 1-10.

Boserup, E., 1965. The Conditions of Agricultural Growth: The Economics of Agrarian Change under Population Pressure. London: G. Allen&Unwin.

Chamie, J., Global Population: Too Few Versus Too Many, YaleGlobal and the MacMillan Center, March 2020.

Dumont, R., Rosier, B., 1969. The Hungry Future, Andre Deutsch Limited.London: The Trinity Press.

Food for the Cities, 2010. Food Agricultural Organization, (online) Available at<hppt://fao.org/fcit> (Accessed on 15 December 2012.

Kropotkin, P., 1972. The Conquest of Bread. New York: New York University Press.

Leonardo B., 2006. Avrupa Tarihinde Kentler, Istanbul: Literatür Yayınları.

Mazoyer, M., Roudart, L., 2005. A History of World Agriculture, from the Neolithic Age to the Current Crisis, Translated by James H. Membrez. New York: Monthly Review Press.

Reader, J., 2007. Şehirler. Istanbul: Yapi Kredi Yayinlari.

Schmidt, J., 2007. How to Feed Three Million Inhabitants: Berlin in the First Years after the Second World War, 1945–1948. In P. J. Atkins, P. Lummel, D. J. Oddy. Food and the City in Europe since 1800. England; Burlington: VT: Ashgate, pp. 63-73.

Teuteberg, H. J., 2007. Urbanization and Nutrition: Historical Research Reconsidered. In P. J. Atkins, P. Lummel, D. J. Oddy, Food and the City in Europe since 1800, England; Burlington: VT: Ashgate, pp. 13-23.

UN Population Division, World Population Prospects, (https://population.un.org/wpp/)

United Nations Development Programme, 1996. Urban Agriculture, Food, Jobs and Sustainable Cities. New York: Published by UNDP.

Wolman, M.G., Fournier F., 1987. Land Transformation in Agriculture. Chichester West Sussex and New York: Published on behalf of the Scientific Committee on Problems of the Environment of the International Council of Scientific Unions by Wiley.

Woollacott, A., 2012, History for the Australian Curriculum. Cambridge: Uncorrected sample pages, Cambridge University Press.