
UNIT 11 AGRICULTURAL AND DEMOGRAPHIC CHANGES IN EUROPE*

Structure

- 11.0 Objectives
- 11.1 Introduction
- 11.2 State of Agriculture on the European Continent
 - 11.2.1 France
 - 11.2.2 Germany
 - 11.2.3 The Netherlands
 - 11.2.4 Russia
- 11.3 Agriculture in Britain and the Agrarian Revolution
- 11.4 Demographic Trends, 1500-1800
- 11.5 Mortality – Famines, Epidemics and Wars
- 11.6 Marriage Patterns – Fertility, Birth and Death Rates
- 11.7 Let Us Sum Up
- 11.8 Key Words
- 11.9 Answers to Check Your Progress Exercises

11.0 OBJECTIVES

After reading this Unit, you will be able to understand:

- the significance of the eighteenth century from the point of view of agriculture,
- agricultural transformation in the north-western countries of Europe,
- state of agriculture in France, the Netherlands, Germany and some other regions,
- the nature and impact of the ‘agrarian revolution’ in Britain,
- the relationship between agricultural changes and growth of population,
- the factors determining population trends, and
- how the share of agriculture was shrinking compared to industry and commerce in the economy in terms of job creator and wealth generator.

11.1 INTRODUCTION

Agriculture had always been the key sector in the economy of pre-modern Europe. It provided employment to a significant portion of population. Till the eighteenth century, hardly any technological innovation was carried out in most regions of Europe with the exception of England, the Netherlands and the north-western states. Population and agriculture had a close relationship, particularly in those

* Resource Person : Prof. Arvind Sinha

regions where natural or subsistence economy existed and agriculture continued to be dependent on natural resources. It is debatable whether the growth of population was due to improved methods of agricultural production and better nutrition or due to the rising population that had applied pressure on agriculture which led to the extension of cultivable land by cutting forests and woodlands, and reclamation of swamps and wastelands. There is a need to examine the factors responsible for demographic upward trend. By eighteenth century, it was not the quality of soil or access to water resources that determined the level of agriculture, but the growing pressures of the market that brought changes in the nature of production. The agrarian revolution in England from the late-eighteenth century demonstrated the scale of agricultural transformation and its contribution to the newly emerging industrial sector. To understand this, there is a need to study the reasons for regional variations in agriculture as well as the demographic trends.

11.2 STATE OF AGRICULTURE ON THE EUROPEAN CONTINENT

Eighteenth century represented growth and expansion of economy in many states after a century of retrogression and stagnation. Signs of agricultural growth in the north-western states were evident. Manufacturing was taking the form of rural cottage industry and capitalist relations were emerging but most regions of Europe feudal system prevailed. The seventeenth century was a period of rural depression in central and southern regions of Europe. In England, agricultural transformation had commenced with technological progress that continued during the next century and contributed in the increase of productivity. European agriculture till the early nineteenth century presented an uneven picture where northern and Western Europe had moved towards capitalist structure while central, eastern and southern regions were still grappling to break the feudal shackles. You have already studied the state of agriculture in different parts of Europe in the first Unit. In this Unit, let us briefly review the agricultural trends of some major countries during the eighteenth century.

11.2.1 France

Territorially, France is almost four times the size of England. Scholars of pre-modern France have divided French economy of the eighteenth century into two prime geographical zones: 1) interior France of north which specialized in cereal production, and 2) the wine-producing zone of the south. France had a long coastal belt along the Atlantic and the Mediterranean. The expansion of colonial trade had led to the growth of towns and industries in the coastal region, but the interior regions remained feudal agrarian lands with low productivity. Yet, the Seine valley near Paris was a relatively advanced region where capitalist relations of production were emerging. In the rest of France, seigneurialism (feudal landlordism) was still the dominant aspect of agrarian life. It was the foundation of rural-social relations and an integral economic fabric of the ancient regime.

Peasants in France constituted a stratified group who were very poor. They formed semi-proletarian group called by different names such as *manouvriers*, *journaliers* etc. They possessed small pieces of land but they were insufficient for their subsistence and hence they had to work on the fields of others. Any kind of crisis pushed them to the ranks of wage-earners. They constituted the exploited section of the feudal order and the scale of their exploitation varied from one

region to another. Usually, they had no rights of ownership but many of them had the right to tenure for centuries that made them virtual proprietors. The middle segment was called *haricotier* and they were slightly better-off. The wealthiest and the best equipped were the *gros fermiers*, who owned vast stretches of land. When the government exempted cleared land from forests or marshy areas in 1763 and 1766, the *gros-fermiers* were the first to grab the opportunity. During the second half of the eighteenth century, when the grain prices were soaring, this class gained through land amalgamation. Landowners took advantage of the rise of cereal prices and land rents and the seigniors imposed fresh obligations on the peasants and tried to strengthen their power over rural produce. A strong reaction of the lower peasants was due to two forms of amalgamation:

- a) The rural proprietors had gradually expanded their estates by absorbing adjacent holdings either through purchase or foreclosure, and
- b) By acquiring scattered farms one by one at the expense of small peasants.

Unlike the rural scene of England where the middling sort of peasants became the new landlords, the French agriculture's social and economic structure was still numerically dominated by the small peasant producers. According to Alfred Soboul, it was the persistence of land property rights that prevented proper restructuring of the French agriculture. The feudal structure remained strong and protected by the feudal absolutist monarchy that placed checks on the transfer of peasants' property. The extra-economic coercion by the seigniorial class prevented any major breakthrough in French agriculture.

During the eighteenth century, some changes in rural France were discernible in land clearances, decrease in fallow land, increasing yield ratio, some new agricultural techniques, and in agrarian organization. However, the pace of change was too slow and confined to specific regions. There was no agrarian revolution of the English type. Production kept pace with increasing population for most part of the century without transforming the technology and productivity. This makes Michel Morineau observe that the expansion of French agriculture was a 'development within stagnation'. Yet capitalist forces began to emerge at a few places where productivity of soil increased with the introduction of some new methods and greater use of fertilizers. Some improvements were noticed in the north-east regions like the French Flanders which were following new methods of agriculture borrowed indirectly from Belgium and the Netherlands. Between 1751 and 1760, Duhamel du Monceau brought out 'Introduction to improving agriculture' in 6 volumes. His ideas were largely borrowed from those prevalent in England. It was particularly publicized by the 'physiocrats' like Turgot and Nemour, who were advocating reform of the agrarian structure on capitalist lines.

Another noticeable change in rural France was the rise of a professional class of 'managers' or the *fermiers généraux*. They were like the capitalists who rented estates of one or more landlords and usually functioned as collectors of seigniorial dues and tithes of the church. We do not find any enclosure movement in France like the one in England. Some individual landlords did approach the French government demanding enclosures around their estates from the mid-eighteenth century but King Louis XV showed no interest in it. Yet, some individuals carried out amalgamation of scattered land accompanied by ousting the original owners or tenants. Here, they tried scientific method of farm management. Georges Lefebvre described them as rural bourgeoisie. They were different from the

traditional seigneurs because they had appropriated surplus land for making profit from production while the seigneurs were only interested in increasing their dues.

Growing population pressure in the eighteenth century along with increasing grain prices caused seigneurial reaction. It meant intensification of feudal obligations. Harvest dues of the lords proved most burdensome for the peasants. Taxes on property transfers like *lods*, *ventes* and *rachets* were introduced; however, the seigneurial reaction varied from one region to another. According to C. Lis and U. Soly, peasants had to pay about 25 to 30 per cent of their produce to a small minority of feudal lords. Between 1720-29 and 1780-89, the rent increased by 142 per cent while agricultural prices rose by 60 per cent.

In most parts of France, three-fourths of the peasants owned less than five hectares of land which was considered minimum to retain economic independence. Of these, 25 per cent of peasants had barely 1 hectare to cultivate. Besides, the peasants were heavily burdened by taxes like *taille* (land tax imposed by the state), *tithe* (payable to the church varying from 8 to 12.5 per cent) and *corvee* (services to be rendered to the seigneurs, which was later converted to money rent) impeded any attempts of land reforms. A large number of very small land holdings and the surplus extraction by the seigneurs prevented the introduction of improvements in land management and technology to augment productivity. It is estimated that the number of rural proletariat and semi-proletariat had grown substantially during the eighteenth century. According to Lis and Soly, the percentage of day labourers had increased from 12 per cent in 1696 to almost 23.3 by 1789. Since industrialization in France was at quite a slow pace, this must have caused immense suffering for this section of peasantry.

A controversy exists over key issues regarding economic and social evolution of the French countryside during the second half of eighteenth century. There are divergent views among the historians. The main debate is on the question of whether agricultural production stagnated or increased during the period of transition. Jean Claude Toutain suggests that there was an increase in agricultural production between 1750 and 1790 at an annual rate of 1.4 per cent that amounted to 60 per cent despite several famines. Michel Morineau questions the methodical base of the figures. He contends that the first national agriculture census was conducted in 1840 which suggests that agriculture hardly made any progress. According to him, agriculture was fragile and highly vulnerable to fluctuation, it was under heavy tax burden, peasant property was fragmented into small land holdings and the continuation of communal rights in agriculture prevented migration of workforce to urban centres.

Emmanuel Le Roy Ladurie rejects this argument and contends that there was hardly 25 to 40 per cent increase between 1700-09 and 1789-89. Ladurie further argues that no agrarian revolution was experienced in France. Though the production increased, there was no change in productivity (measured in terms of new crops, new techniques and increased yields per acre).

One of the most contentious aspects of the agrarian life during the eighteenth century was the village common land. It reinforced the collective nature of rural life. It was based on the principle of feudalist 'collective usage' as opposed to the idea of individual ownership. A bitter debate took place during the second half of the eighteenth century between the supporters of mercantilist regulations of the state and the Physiocrats like Vincent de Gourney, Quesney, Nemour, etc.

Gourney, in his articles in *Encyclopedie* (1756-57), attributed the decline of French agriculture to a) heavy taxes and b) artificially low price of corn caused by ban on export. He advocated large-scale farming, prosperity of farmers and substantial capital investment in agriculture. The Physiocrats considered agriculture to be the real creator of wealth and favoured natural laws of economy. They advocated large-scale capitalist farming, promotion of private property, liberation of producers from feudal and guild restrictions, bourgeois form of land tenures, freedom from seigneurial customs and capitalist form of rent. These scholars were opposed to state regulation and the famous finance minister Necker removed state protection of grain prices in 1776. Henri Leonard Bertin, a well-known agronomist, attempted to abolish collective practices and reform the usage and tenure of common land through the edicts of 1761 and 1766. The land clearance edict of July 1770 marked a distinctive legislative victory for agrarian individualism in Languedoc.

There are two divergent pictures of the French agriculture as presented by Arthur Young, the famous English traveller and scholar who travelled across France from 1787-89 and Alexis de Tocqueville, the French minister and great scholar of 1840s and 50s. In his *Travels in France* (1792), Arthur Young states that France was a country 'possessing nothing but privilege and poverty'. In 1788, he observed the sub-division and wide dispersal of holdings that provided further obstacles to the diversification of crops and selective breeding. While Young wrote a gloomy picture of French agriculture, highlighting its poverty and backwardness, for Tocqueville, the French agricultural scene was progressing well.

The French Revolution brought a sudden change by abolishing the feudal structure through the legislation of 1789 and 1793 along with the destruction of the seigneurial regime based on privileges and taxation rights. Its impact was not felt immediately and the actual reshaping of rural France took place by mid-nineteenth century with the coming of new forms of communications, railways and big industries which helped in the creation of a national market.

11.2.2 Germany

The German agrarian condition was very similar to the one that existed in pre-revolutionary France. The German nobility was constantly criticized by the bourgeois enlightened scholars without much effect. The pace of agrarian reforms was too slow and the emancipation of peasants did not end the feudal agrarian relationship. The real change came only in the nineteenth century.

During the eighteenth century, Germany showed signs of socio-economic changes that were bringing slow transformation of agrarian society. The population growth during the eighteenth century became more marked from 1756. Progress in the early years of the eighteenth century was disrupted due to the War of Austrian Succession in 1740s and the Seven Years War in 1750s. A spurt in industrial production and the demographic growth stimulated agriculture by creating demand for food grain and raw materials, and the widening market stimulated agriculture. The rise of towns and urbanization began to put pressure on the rural economy.

One of the catalysts for agrarian change was the population growth, like England, but the change came much later, perhaps in the second half of the eighteenth century. Unutilized land was brought under cultivation and agrarian reforms

contributed in increased production. The Enlightenment ideas encouraged the rulers to carry out diverse reforms through state initiative. The adoption of improved 'three-field' system and crop-rotation resulted in increased yield per acre to feed the growing population. Among the new plant crops was maize to supplement the traditional food supplies in some states of Germany like Baden, Wurttemberg, the Palatine, etc. Introduction of potato cultivation by state governments but was initially resisted by the peasants but experience revealed its benefits. It could be sown in infertile soil or in unfavourable climate. In 1770-71, potato cultivation became a life saver when there was a famine caused by grain failure.

The German agriculture also contributed to industrialization by providing raw material like flax, hemp, chicory, hops, tobacco and grapes for wine. The main production centres of hemp were in Baden, Westphalia, Hesse and Wurttemberg. Hemp was used for making ropes; it was used in coarse textiles of common use and for extracting oil. Flax was used for finer textiles and was grown in Silesia, Westphalia, Hanover and Bohemia. Chicory was used as a coffee substitute and tobacco cultivation was promoted by the state governments but did not achieve much success. Also, till the end of the eighteenth century, none of these crops made Germany a specialized region or helped it in capturing international market.

The expansion of meadows was another special feature in many parts of Europe from the late-seventeenth century. It promoted animal husbandry and also provided manure in larger quantities to help agriculture. During the later years of the eighteenth century, a few improvements were made in agricultural practices such as sowing the fallow lands with nitrogen-fixing plants and greater care of meadows and animals. These steps saw significant improvements in productivity. Proper land utilization was another noticeable development in the eighteenth century though its fruits appeared in the next century. The concepts of fallow land and three-field system were disappearing with the introduction of clover, legumes and root crops like potato, turnip, etc. Marginal lands were reclaimed. The privileges of powerful nobles were curtailed by the enlightened despots and a limited form of enclosures had emerged. However, the feudal structure had not been dismantled.

Like England, the German agrarian relations were influenced by the market forces but the feudal nobility could not be destroyed alone by the rulers. It was only in the nineteenth century that new landowning class emerged along with the capitalists and military elements that became the pillars of power in unified Germany.

In the eighteenth century, a gradual difference emerged between the agrarian system of Germany in the east and the west of river Elbe. The western region experienced restricted commercialization and intensification of agriculture that was attempted by the state. The eastern parts of Germany remained locked under the shackles of feudal ruler-nobles nexus. They placed obstacles on the path of capitalist market society. The landed magnets in Germany became politically powerful till the First World War.

11.2.3 The Netherlands

As in England, the landowners in the Netherlands during the eighteenth century were able to overcome the agrarian problems by adopting new techniques and

new methods of farming. Among them, enclosure of open fields and crop rotation were most important. The major centre of agronomical experiments was located in southern Netherland. Flanders and Brabant had achieved the highest yield ratios in Europe. This was possible because of the high labour-intensive farming, good quality fertilizers, advanced methods of crop rotation and production of good quality fodder and commercial crops for the market. As a result, by mid-eighteenth century, this region was exporting five per cent of the yearly produce of grain.

Except for Holland, cereal cultivation came to be practiced in most parts of the Netherlands though rice was the main crop. It was used for preparing gin and bread. In times of food scarcity, it could be mixed with oats or other cereals to make bread. The consumption of wheat bread increased during the eighteenth century. Regions like Zeeland had started cultivating wheat when its demand was increasing. However, wheat imports declined and its consumption reduced with sudden rise in its prices. In rest of the regions, rye cultivation remained popular among the peasants. Foodstuffs like buckwheat were fast replacing wheat and by 1798, its consumption constituted 17 per cent of the total cereal consumption in Holland (J.A. van Houtte).

Potato was another crop that was fast becoming popular in Brabant, Zeeland, Utrecht and Friesland. Its popularity was due to high cost of grain during famines. It was preferred by the cultivators too as potato was exempt from the *tithe* and increasing rates of taxes. Other crops like flax, hemp, hop and tobacco continued to be grown in many states in the eighteenth century. After 1750, decline of textile industry in this region adversely affected the cultivation of flax.

Flanders had heavy density of population and small fragmented landholdings. Yet, crop rotation was introduced and it contributed to intense cultivation in this region, an innovation borrowed by England from here. Flanders had shown to the neighbouring countries the importance of intensive cultivation through crop rotation. This was adopted in many regions including Antwerp, Campier and northern Brabant. It was adopted by small farmers as well as in lands of proprietors. The inferior land could be utilized either for stock farming or potato cultivation; the latter could be cultivated in small units of land. According to Lis and Soly, the proportion of the small farms of less than one hectare was 49 per cent in 1711 but by 1790, it had gone up to 66 per cent. The peasants of Flanders experienced disruption of the traditional order as the landlords had started raising rents seeing the demographic pressure while the merchants and manufacturers were keeping the wages low. The spread of proto-industrialization for the preparation of linen from the late-seventeenth century had shifted the manufacturing activities to the countryside in order to avoid the whims of urban guilds.

11.2.4 Russia

The problem of Russia was quite different. The vast territory with very low density of population was a problem for the government. It needed large peasant population base for state taxes and for the recruitment of soldiers. It was for this reason that serfdom was imposed from above. It was outlined in the legal code of 1649 in the *Ulozhenie* which included *barschina* (forced labour) and led to the decline of the *mir* (village community). The availability of vast land and cruel forms of exploitation resulted in constant migration of peasants. Villages

were isolated and peasants were under constant distress. StenkaRazin's rising in southern Russia (1667-71) began as a form of banditry and then turned into a vast protest against serfdom.

Feudalism in Russia survived in varying degrees of rigour, with range of dues and services that were part of seigniorial rights. Strengthening of the ties of mutual interest bound the Czars and the landowners. The Russian peasants were growing in numbers but during the eighteenth century, were not secured. They were sent out to farm new lands. Catherine the Great, known to be a leading enlightened ruler, transferred 800,000 serfs into private ownership. These serfs could not marry, move or take up a trade without the permission of the feudal land owner. Thus, while feudal structure was destroyed in north-western regions of Europe, in Russia, the period of enserfment had started that lasted till the second half of the nineteenth century.

11.3 AGRICULTURE IN BRITAIN AND THE AGRARIAN REVOLUTION

Economically, Britain became the leader in agrarian and industrial fields. According to E.J. Hobsbawm, agriculture held an important place in England for two reasons – first it was the indispensable foundation for industry and second, the 'landed interest' dominated British politics and social life.

Major changes in the English agrarian structure were experienced after the Bourgeois Revolution of mid-seventeenth century. It marked the advent of capitalist land relations that brought an end to the feudal economic structure including the land tenures. The share of agriculture in the overall employment throughout the century continued to shrink from 80 per cent around 1700 to about 40 per cent in 1800. Yet, the decreasing agricultural force was able to feed the growing population of England.

During the sixteenth century, a decisive shift in agriculture had already begun. According to Robert Brenner, the English ruling class was the most self-organized one in Europe and was able to exploit the peasantry and by eighteenth century, they dispossessed the peasantry by means of enclosures. It was the retention of property rights that enabled the lords to undermine the customary rights and copyholds of the peasantry in the late sixteenth and early seventeenth centuries and enabled them to farm their holdings on capitalist lines.

According to Phyllis Deane, there were four major feature of the British agrarian revolution. It involved farming in large consolidated units instead of the medieval practice of open-field cultivation. Second, it involved the extension of arable farming instead of heaths (open uncultivated land) and adoption of intensive livestock husbandry. Third, it implied the transformation of village community of self-sufficient peasants into labourers, dependent on market forces rather than on local factors. Fourth, it involved an increase of agricultural productivity. These characteristics were evident by the eighteenth century.

Enclosures

The enclosure movement was an important factor in rural transformation that brought about the 'agrarian revolution' in England. Till the eighteenth century, cultivation system varied from place to place. The persistence of open fields or

its conversion to enclosed ones depended on various factors like the quality of soil, nature of produce and its distance from the market. Even in the eighteenth century, nearly half of the agricultural land in England was still held in intermixed open-field system.

The farmers of big estates were interested in consolidating their landholdings in order to use new methods of cultivation and make profit from it. The open field system had dominated rural England since the Middle Ages. Even the big landlords had scattered holdings interspersed by land strips owned by neighbours. Owners of such scattered holdings were compelled to follow traditional practices of cultivation. The open-field system was a big hindrance in the adoption of new methods and technology as the whole village community decided on the choice of crop or the number of cattle each member could take for grazing and quantity of wood that could be collected from the forest.

Since the end of fifteenth century, private enclosures were carried out but the process of consolidation of landholdings was legalized by the acts of parliament during the eighteenth century. The Tudor rulers of the sixteenth century did not encourage enclosures fearing social and political upheavals. Its interests were to keep the peasants tied to their land as enclosures would have caused large-scale evictions. Thus enclosure drive was kept in check till the late seventeenth century when political power came in the hands of new landed class and bourgeoisie. Voluntary enclosures were difficult to achieve because the earlier legislation made them necessary to have the consent of all the members of the village including the poor farmers. Parliament usually passed the Enclosure Act now in response to a village a petition supported by 4/5th of the land owners including the ecclesiastical land owners. The entire procedure of land enclosure was difficult and expensive. The land was surveyed and land redistribution had to be done in proportion to the earlier holdings.

The first Act of Parliament on enclosure was carried out in 1710 but the progress was rather slow. It was only after 1760 that pace of enclosed lands picked up. Between 1750 and 1760, parliament passed 156 acts of enclosure while the number of acts on enclosure went up to 906 by 1810. According to Lis and Soly, no less than 600,000 hectares of common and waste land was enclosed between 1761 and 1815.

Historians believe that enclosures carried out by the parliamentary acts formed the most radical aspect of agrarian change in England. The process had commenced from the sixteenth century but gained speed in the eighteenth century due to the involvement of Parliament. Historians have debated the significance of enclosure movement in the socio-economic sphere. One view treats its value as a precondition for industrialization in the cities. It is also suggested that there was a distinct improvement in agrarian organizations and in animal husbandry that pushed England ahead of other European nations. The English agriculture began to meet not only the domestic demand but provided surplus for exports after 1750. Steady rise of prices and demographic growth promoted capitalist farming. Wheat exports continued to increase, with a sudden spurt in 1730s - from 109,000 CWT in 1710-19 to 116,000 CWT in 1720-29 and then jumped to 296,000 in 1730-39.

However, the advantages of enclosures should not be overestimated. It had a darker shade too. It should not be seen as the lone factor in improving agricultural

productivity. Certainly, it removed restrictions on technological progress, but it was done at the cost of rural welfare. It undermined the traditional economy and security of the small farmers. Even the small landowners and copyholders with legal property rights were eliminated under enclosure acts. Small farmers who managed to survive found it too difficult to compete with their rich neighbours in investments for land improvement. They were forced to migrate to urban centres for their lively hood. Phyllis Deane points out that the standards of food consumption deteriorated for the rural poor during the second half of the eighteenth century. The diet of small farmers was restricted to mainly bread and cheese. Enclosures had taken away their pasturage and sources of fuel and fish from the ponds, which often became the part of enclosed land. The physical appearance and social landscape also underwent a major change. The scene of large cultivators working on their fields was replaced by vast stretches of land with trim hedges demarcating their boundaries. The large estates with imposing manor houses, gardens and parks transformed the sight of the countryside.

Apart from the enclosure enactments of the eighteenth century, the agrarian revolution had some other features which led to the transformation of the agrarian structure of England. Constant use of the land caused loss of fertility and this was overcome by the practice of leaving a part of their land fallow under two or three-field system. It helped the soil to get nitrogen. Poverty among the farmers did not allow them to keep enough animals for manure. Till the late-seventeenth century, the English agriculture had remained largely traditional. Improvement in agricultural technology brought about a change in productivity. Among the first innovations that contributed to the increase of productivity was the one by Jethro Tull. His experiments proved very beneficial. He designed a horse-driven hoe and mechanical seeders which made farmers sow seeds in straight line. It also made the harvesting easier. It made farming labour-intensive and more productive. Lord Townshend demonstrated the value of growing turnips, clover and other field crops in rotation that helped the soil to retain fertility even with continuous usage. William Coke prepared several tracts on the use of field grasses, new fertilizers like oilcake and bone meal and the principles of efficient estate-management. Arthur Young popularized new agricultural ideas in his *Annales of Agriculture* in 1784. He organized competitions among the farmers and also created farmers' club. King George III was himself inspired by these ideas and established a model farm at Windsor where Merino sheep farming was introduced. Norfolk in the east came to be known for its techniques of 'high farming', while East Kent and Worcestershire developed orchards and hop fields, Sussex and Surrey specialized in geese and capons (domestic fowl).

The agrarian revolution resulted in the increase of agricultural productivity and technological advancement. Social and economic outcomes enabled the population to far exceed earlier levels and facilitated England's march to industrial dominance. Britain attained most productive agriculture in Europe, nearly 80 per cent higher than the continental average in the nineteenth century.

It is also argued by a few scholars that the increase in food supply contributed to the rapid growth of population in England and Wales from 5.5 million in 1700 to over 9 million in 1801 agricultural productivity went hand in hand with decline of agricultural share in total labour force as modern methods could produce more food with less man power. Enclosures of land pushed small farmers out to become industrial workers. The new agrarian structure helped in the creation of a vast national market of agricultural goods.

By end of the eighteenth century, North-western Europe witnessed rapid growth of population. Belgium and the Netherlands had reached a high level of productivity in agriculture. After England, these were the most developed economies. By 1800, England recorded the lowest proportion of rural population of 51 per cent while Spain had 79 per cent and Italy 74 per cent. In 1700, barely 15 per cent of Europeans lived in towns though the figure varied from one country to another.

Check Your Progress 1

- 1) Discuss the state of agriculture in France and Germany during the seventeenth and eighteenth centuries.

.....
.....
.....
.....
.....
.....
.....
.....
.....

- 2) Write a note on the enclosure movement in England.

.....
.....
.....
.....
.....
.....
.....
.....

11.4 DEMOGRAPHIC TRENDS, 1500-1800

The demographic history from the end of the fifteenth century witnessed alternations from growth, decline or stagnation to growth again, subject to regional variations. There was demographic upswing from the late-fifteenth century that lasted until the beginning of the seventeenth century. Several parts of Europe underwent a decline or stagnation during the seventeenth century. There was a sharp upward swing from the early eighteenth century. It is estimated that the population increased by 0.6 per thousand annually but it doubled between 1700 and 1850. The rate of growth had gone up to 5.3 per thousand from the seventeenth century to the end of the twentieth century. According to Paolo Malanima, the average growth during the eighteenth century was about 4 per thousand. All these figures are based on rough estimates and vary enormously with each writer and different methods of calculations. It was only from 1801 that Britain started a decade-wise census under the influence of Thomas Malthus, the famous theorist of demographic studies.

Rough Estimate of Population in Millions

Years	1700	1750	1800	1850
Belgium	1.75	2.25	3.25	4,50
Britain	5.75	6.00	9.25	18.00
France	22.00	24.00	29.00	36.00
Germany	13.00	15.00	18.00	27.00
Italy	13.00	15.00	19.00	25.00

A rough estimate of the total European population suggests that in 1600, it was 107.05 million (including Russia); in 1700, the population was 114.85 million; in 1750 it jumped to 143.23 million and in 1800, it reached 188.30 million. The population of north-western regions of Europe has grown rapidly after 1700. England and Wales had a population of 4.4 million in 1600, that increased to 5.45 million in 1700, 6.3 million (1750) and in 1800, it jumped to 9.25 million. In Netherlands, from 1.5 million in 1600, the figures went up to 1.95 million in 1700 and 2.1 million in 1700. Similarly, the population of Belgium grew from 1.3 million in 1600 to 1.9 million in 1700 and then climbed to 2.9 million in 1800. The French population too increased from 18.5 million in 1600 to 21.5 million in 1700 and leaped to 29 million in 1800. In central regions, the increase was not too high. For example, in German states the population was 16.2 million in 1600, declined to 14.1 million in 1700, primarily due to Thirty Years War (1618-1648) and the general crisis of the seventeenth century, and then grew rapidly in the eighteenth century to 24.5 million in 1800. In southern Europe, the Italian population was 13.3 million in 1600 but stagnated at 13.5 in 1700, and then increased marginally during the eighteenth century to 18.1 million in 1800. The Spanish population grew moderately from 6.8 million in 1600 to 10.5 million in 1800. Although, these figures are not reliable and are based on rough estimates provided by Paolo Malanima, they provide general trends of demographic changes in pre-modern Europe. The demographic figures of central and southern Europe indicate the impact of wars and production crisis in a subsistence economy. The increasing population resulted in heavier density of population. Around 1700, the average density of Europe was 11 inhabitants per kilometre that increased nearly ten-fold. In western and central regions of Europe, the average density was about 50; in Spain, it was about 20 and in Prussia and Poland, it was nearly 14 and in Russia, with the lowest density in the region, it was merely 3 persons per kilometre.

In natural economies, the relationship of population and agriculture is crucial, as argued by Thomas Robert Malthus, the famous British theorist of population studies. *An Essay on the Principle of Population* appeared in 1798. It was a warning to the English authorities of the consequences of the rapid growth of population by stating that population grows at geometrical ratio while food production was limited to arithmetic proportion. Malthus brought out socio-demographic dynamic of pre-industrial societies. His theory suggests that growing population leads to a rising supply of labour and consequently lower wages. Continuous population rise thus leads to poverty. His arguments contributed to the passing of the Censuses Act of 1800. His work ignited a controversy based on his views on population growth. The classical economists of the eighteenth and nineteenth centuries shared this view. More recent economic historians do not

agree with the classical approach on population and point out the influence on technological progress. They point out to the shortcomings of Malthusian simple notion of natural constraints based on population-land relationship citing the experience of Sweden and Ireland. Wrigley and Schofield have tried to present an inverse side of the Malthusian model. Yet, Malthusian principles could not be entirely discounted in context of pre-modern agrarian societies. Malthus opened gates for more advanced population theories that are better applied to post-eighteenth century.

11.5 MORTALITY – FAMINES, EPIDEMICS AND WARS

Famines and epidemics are some factors that played a decisive role in determining the size of population. Famines too, had impact on the demographic and agricultural growth throughout the seventeenth century. Economic historians have stressed upon the co relationship between famines and mortality. The pre-industrial agricultural regimes of Europe were precariously placed in the absence of technological development. Famines also caused an indirect impact on mortality. This view is also contested by many science writers. There is no doubt that poor nutrition makes a person susceptible to infection and diseases.

The critics of this viewpoint argue that in many cases like small pox, malaria, diphtheria, encephalitis and plague, there is no relationship between the nutritional diet and the probability of contacting the illness. The rise of medical science began to provide protection against diseases like smallpox. The introduction of inoculation against small pox in the late- eighteenth century by E.Jenner had a positive impact. Among the deadliest epidemics, plague was the most serious. The disease had existed in ancient times but had disappeared till the eight century. Between 1347 and 1352, plague had caused death of about one-thirds of the European population. This epidemic often broke out in different parts of Europe and it ravaged Britain in 1665-66 having death toll of nearly 70,000. Plague was disappearing from the eighteenth century after breaking out in Marseilles (1720), Ukraine (1737) and Moscow (1789). It is difficult to provide precise reasons for the disappearance of plague. Scholars have given different explanations such as preventive health and measures of hygiene, changing the material for house construction from wood to bricks and stones and keeping vigil over rats.

11.6 MARRIAGE PATTERNS – FERTILITY, BIRTH AND DEATH RATES

Demographic trends in pre-modern age were determined by the birth and death rates, which was the fundamental feature. The first stage of the Demographic Transition Model is applicable to pre-industrial societies and explains how the birth and death rates affects population growth rate. In the first stage, the high birth rate and high death rate keeps the population stable and checked. In the subsequent period, high birth rate and reduction of death rate results in rapid growth of population as had happened in the second half of the eighteenth century. The usual death rate during this period was about 35 per thousand which could rise in periods of epidemics and famine. The birth rate was higher, 1 or 2 units above infant mortality rate. The gap between the birth and death rates enabled slight increase of population. It was the mortality that was the principal device in

maintaining the population balance in relation to resources. It proved to be one of the important means of population check.

Another factor that controlled demographic growth was the marriage age of the youngsters. Late marriages reduced the period of child bearing age or decreased the female reproductive period.

Although it is not clear whether specific forms of birth control existed in pre-modern period. Some forms of birth control appear to be prevalent in some parts of Europe among the upper classes, religious minorities and urban habitants. Paolo Malanima provides evidence in the form of legal proceeding in Merzario to prove that birth control was practiced in rural France and Hungary during the eighteenth century.

In recent demographic research, experts argue that variations in birth and death rate ratio can play a decisive role in demographic changes. Fertility level is determined by fecundability and fecundity. A set of factors that affect the likelihood of a woman to reproduce if exposed to sexual intercourse without contraception, called fecundability, did not vary much during the early modern period. Much more important factor was fecundity, the physiological ability to bear children. Improvement in nutrition and health facilities resulted in the increase of fecundity. At the same time, we should keep in mind that improvements in nutritional value in food may not have affected the masses.

Apart from birth control methods, the practice of breast feeding was commonly used as a primitive type of contraception, sometimes for two-three years, thereby checking birth rate by temporary sterility in women following breast feeding. Recent works on early modern demographic trends have shown the importance of marriage age and the proportion of married men and women as mechanisms to control fertility.

In the pre-industrial societies, the population was checked as much by birth control and epidemics as by late marriage. About two per cent of the population did not marry due to religious reasons like celibacy or following the vocation of priest, nun or monks. Compared to Asian societies where everyone is supposed to marry, Europe had good number of people who did not marry. Widows and widowers rarely married. Percentage was much higher-as much as 15 to 20 among women who did not marry. Late marriage was an effective factor in constraining population growth. Several documentary studies of marriage patterns have been made of Western Europe. Compared to the Asiatic societies, the practice of marrying late was prevalent in the western regions of Europe. The marriage age differed from one region to another in pre-industrial age. It remained around 25. Before 1750, in France women married at 24.6 years of age, in England and Belgium at 25 while in Scandinavian countries it was 26.7 and in Germany it was 26.4 (according to Molanima) Demographic scholars tend agree that there was a decline in mortality rate during the eighteenth century, particularly due to the relationship between economy and population. A common belief is that during the eighteenth century, the reduction of death rate caused by famine and epidemics was the result of improved nutrition. This was the result of progress in agriculture leading to improved productivity, reducing the impact of famines. Improved diet is believed to have developed resistance against diseases. An increase in the per capita consumption of agricultural produce in England during the eighteenth century resulted in the rise of population. Scholars have disagreement with the

above-mentioned explanation which they find too simplistic. Total growth of about 50 million in the European population between 1700 and 1800 has to be explained with a wider approach.

The technology of weapons had undergone radical change from the medieval period till the French Revolution. Older versions of weapons were transformed into destructive firearms and wars were not based on personal valour but on military organization. A large number of civilians were killed in wars as had happened in the French religious wars, the Dutch revolt, Thirty Years War (1618-1648), etc., and crops were severely damaged by trampling and burning, livestock killed and vast stretches of land ravaged. The population suffered the damaging effects of these wars. Population losses were about 40 per cent in many parts of Germany and central Europe, Poland, Masovia—they all experienced negative impact of the wars.

Check Your Progress 2

- 1) Discuss the demographic trends in Europe in the seventeenth and eighteenth centuries.

.....
.....
.....
.....
.....

- 2) Analyse the marriage patterns in Europe in the eighteenth century.

.....
.....
.....
.....

11.7 LET US SUM UP

In this Unit you studied:

- The vast variation in the organization of agriculture in different European countries,
- Factors that were responsible for regional variations,
- Why the north-western regions of Europe succeeded in transforming agriculture on capitalist lines and the importance of commercial practices,
- How the English agrarian transformed the entire economy resulting in the establishment of capitalist structure,
- A close relationship existed between demographic trends and pre-modern agrarian economy, and
- How variables like birth and death rates, fertility, marriages determine the trends in demography and the nature of changes during the eighteenth century.

11.8 KEY WORDS

Celibacy	:	To lead an unmarried life without sex for religious reasons.
Enclosure	:	Enclosing common land by planting hedges for personal use by landlords.
Fertility	:	Reproductive capacity.
Junkers	:	Nobles of the Prussian provinces who dominated the higher posts in bureaucracy and officer corps.
lods and ventes	:	Dues on property transfers.
Physiocrats	:	A set of writers in the eighteenth century who advocated the destruction of seigneurial regime and develop modern agriculture based on property-relations.
Seigneur	:	The French feudal lord enjoying social and economic privileges.
Taille	:	A direct tax on agricultural produce and sometimes on property.

11.9 ANSWERS TO CHECK YOUR PROGRESS EXERCISES

Check Your Progress 1

- 1) See Sub-section 11.2.1 and 11.2.2
- 2) See Section 11.3

Check Your Progress 2

- 1) See Section 11.4
- 2) See Section 11.6