
UNIT 32 TRENDS AND TRANSITION IN POPULATION

Structure

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32.1 INTRODUCTION

This unit attempts to include a crucial aspect to the study of historical development of societies. The study of population has been constrained due to paucity of detailed data available for different parts of the world. However, the available data though limited, helps in reconstructing the trends and transition in population during the medieval period. The role of populations (which in fact forms the basic unit of any Society) and changes within them have also led to change in various aspects of human life. In this sense, they are not merely passive statistical data. The variations in the population of any society (more so in the Case of medieval world) have led to changes in family structure, marriage and social interaction patterns on the one hand, while they have also forced large-scale changes at macro-levels to announce transition from the medieval to the modern, as in the case of Europe. This unit is an attempt to locate changes in the medieval society through the prism of populations.

The Unit will provide a brief estimate of world population around 600 AD. The estimates of population and its distribution in different parts of Europe have been discussed in detail. The last section of the Unit will be devoted to various factors which influenced the fluctuations in population in medieval Europe.

32.2 SOURCES AND METHODOLOGY

Historical demography – the study of population, its size, growth and mobility

Pre-Modern World: An Overview – is severely constrained by inadequate source material. The ethnographic data compiled by anthropologists and archeological evidence contribute to some understanding of the variations in population in early times. But most of the sources used as reference points were not actually meant for demographic purposes. The most important source of information about population is the census (the first enumeration dates back to 508 BC. from Rome), but the early censuses only counted those individuals who were either fit for war or liable for taxes and made no effort to enumerate total populations. However, these estimates have been used by historians to extract information about the structure of population: its age, marital status, sex ratio etc. At the same time, genealogies, chronicles, witness lists, archaeological investigation of burial grounds, appearance of new sites and extension of land under cultivation provide very useful supplementary information about general trends of population change.

In the early Middle ages however, the family farm (variously called *mansus*, *focus*, *familia*, *casata* etc.) became the basic component of manorial and fiscal assessment. The most famous of these censuslike enumeration is the *polyptyque* (survey) of lands of the Parisian monastery of St. Germain des Pres (Paris) made by Abbot Irminon in the ninth century. David Herlihy's study *Medieval Households* is based on the use of this source. There are similar documents of St. Remi of Rheims and St. Peter of Marseilles. Abbot Irminon's survey calculates population by a count of households of families taking 3.6 persons for each household.

In England, court rolls provide detailed information about manorial levies such as marriage fees (*merchet*) death duties (*heriot*), fines for sexual misconduct (*leyrwite*) and exemption from residing on the manor (*chevage*). By linking these references, historians have attempted to reconstruct English manorial populations. The Domesday Book of 1086 (the village by village enquiry yields a population figure of 1.3 million for England), the French Hearth tax survey of 1328 and the 1427 Florentine *Catasto* (the primary source for David Herlihy and Christiane Klapisch – Zuber monograph *Tuscans and Their Families*) are some of the other important sources for analysing medieval demographic profile.

Europe holds a special position in the historical study of demographic change with the help of the “parish registers” and the records provided by the church about baptism, marriage and burial. Aggregation of baptism and marriage data can be used to represent trends in population history. Although such series of accurate parish records are not numerous, the large variety of evidence represented by them allows some inference of long term trends.

The Cambridge Group for the History of Population and Social Structure has produced many significant works on population. Wrigley and Schofield in their path breaking study *Population History of England, 1541 – 1871*, calculate annual totals of births, deaths and marriages in England based on a technique called “back projection” and “family reconstitution”. This technique and Ronald Lee's theory of “inverse projection” starts from an end date when an accurate census provides information about the size of population and its age distribution. Then working backwards this initial population is adjusted by adding deaths and subtracting births as far back as the time series reach. Migrations and uncertainties about ages at death could result in an error in calculation but it appears quite accurate when applied to large population where migration is a minor factor. Using back-and inverse-projection, the parish registers have been

used to reconstruct total population and its age structure, the calculation of birth rates, death rates, life expectancy and marriage rates.

“Family reconstitution” is another method that exploits the nominative character of parish registers. French demographer Louis Henry’s pioneering study in this area was followed by Michael Flinn and many others. This method involves the linkage of baptism and burial records in a single parish in order to reconstitute the life histories of whole families. For example, the linkage of a woman’s marriage record to her own baptism establishes her age at marriage. The linkage of the baptisms of children born to her establishes the number of her children and the ages at which she bears them; her age at death reveals her life span. Thus when a sufficient number of families can be reconstituted, they form a population for which fertility and other rates such as birth rate can be calculated. However, very few parish registers permit the use of these methods for earlier times.

In recent times, historical demography has become more sophisticated with the use of computers. It has made it possible to process huge amounts of data. Wrigley and Schofield’s work is based on the summation and negotiation of millions of records of parish registers. Reconstitutions by computers has speeded up nominal linkage while analogous techniques have been used in the analysis of medieval court rolls.

The study of medieval demography in recent times reflects a shift in emphasis in research. Increasing interest in the social institution of family, the functioning of the ‘domestic unit of production and reproduction’ has taken precedence over the study of population estimates of a particular time or region. The number of people comprised in a ‘hearth’ or household are now being examined in terms of kinship ties, of demographic and economic constraints and juridical norms which governed medieval households.

32.3 WORLD POPULATION C 600 AD

The population at the beginning of the common AD era, according to average estimates was about 170-185 million. By the beginning of the seventh century AD, it seems to have increased to 195-220 million. The three main areas of population concentration in Europe and Asia in the first six centuries AD were the Mediterranean basin, India and China. (UNESCO, *History of Humanity*, Vol. IV, 1994).

The most populated areas of Europe were those lying under Roman rule, especially around the Western Mediterranean: Italy, Gaul (France) and Iberia (Spain and Portugal). The empires of eastern European provinces were sparsely populated. They were, however, all affected by the invasion of barbarian tribes – *Volkerwanderung* or ‘migration of peoples’.

Early in the fourth century AD the Huns from central Mongolia invaded northern China, the bulk however moved west through the steppe zone until they reached Gaul. This in turn drove many Germanic people into migration – Goths, Vandals, Franks, Lombards. Rome was ravaged by ‘Visigoths’ in AD 410 and again in AD 455 by the Vandals. Rome’s population dropped from about 3,00,000 in mid-fourth century to less than 50,000 or even 30,000 by the end of the sixth century. Most cities of Western Roman Empire in Italy, Gaul and Iberia suffered a similar fate. Even when population growth resumed in North-West Europe, population density remained very low.

In Asia, population rose steadily in India as a result of progress in agriculture. But China's population suffered repeated losses as a result of invasions by the Huns. While population growth in Western Asia suffered as a result of frequent wars between Byzantines and Persians. Egypt, the most densely populated area in Africa too suffered demographic losses as a result of these wars in the late sixth century. In sub-Saharan Africa, population growth continued to remain slow, only small pockets of population practised slash-and-burn agriculture, while south of the Sahara, hunter-gatherer economy prevailed.

The population density in the Americas in AD 600 was even lower than it was in Africa. Small scattered groups of population subsisted by hunting and gathering. Although there is little consensus, population figures for Americas in AD 600 have been estimated around 5 to 7 million. We are providing population estimates of various regions and countries from 1st century AD to around 1500 AD in annexure-1(UNESCO, op. cit.)

32.4 POPULATION ESTIMATES AND DISTRIBUTION: MEDIEVAL PERIOD

Due to paucity of data it is very difficult to work out population figures for different parts of the world during the medieval period. These estimates have been made based on different methods for different regions. These estimates give us only a broad idea. However, a lot of work has been done on the demography of Europe. The figures for the population of Europe have been calculated by Scholars following different methods. These figures were further reworked and refined and provide a much better picture as compared to other parts of the world. Our discussion would, therefore, be mainly on the data available for Europe. The estimates for Asia have been given here to provide students a general idea only.

32.4.1 Asia

China's population estimated at 50-60 million in AD 600 rose to 110-120 million in AD 1500. The Chinese were far more advanced in technology than medieval Europe. The art of printing; use of navigational compass and gunpowder gave it an edge over Europe during the period. Agricultural expansion particularly, south of Yangtze valley led to a rapid population growth as opposed to the north, which experienced demographic losses on account of nomadic attacks in the twelfth century and again by the Mongols in the thirteenth century.

In India, population estimated at 50-55 million in AD 600 rose to 100-110 million in AD 1500. Its main demographic concentrations lay along the River Ganges. Moreland for the first time provided an estimate for the population of India for the year 1600 A.D. This estimate was a population of around 100 million. Shireen Moosvi modified these calculations using extent of cultivation and land revenue figures and reached a figure of around 145 million in 1600 AD India.

32.4.2 Europe

As already indicated the population estimates for the Europe are available in a much organised manner. They help us to get an idea of trends in population over a long period of time. We are reproducing the two tables which gives a

clear picture of changes in population between 6th century and 17th century.

Table 1: Population Estimates For Europe (in millions) at specified times, A.D. 500-1450

Area	500	650	1000	1340	1450
Greece and Balkans	5	3	5	6	4.5
Italy	4	2.5	5	10	7.5
Iberia	4	3.5	7	9	7
Total – South	13	9	17	25	19
France-Low Countries	5	3	6	19	12
British Isles	0.5	0.5	2	5	3
Germany-Scandinavia	3.5	2	4	11.5	7.5
Total – West and central	9	5.5	12	35.5	22.5
Slavia	5	3			
Russia			6	8	6
Poland-Lithuania			2	3	2
Hungary	0.5	0.5	1.5	2	1.5
Total – East	5.5	3.5	9.5	13	9.5
Total – all Europe	27.5	18	38.5	73.5	50

Sources: Russell, *Late Ancient and Medieval Population*. p. 148: somewhat revised especially for Italy by K.J. Beloch. *Bevolkerungsgeschichte Italiens*, III, 344-352, and for the Balkans by Russell, *Journal of Economic and Social History of the Orient* III (1960) 269-270.

(cf. Carlo M. Cipolla, *The Fontana Economic History of Europe: The Middle Ages*, Glasgow, 1981, p. 36)

Table 2: Population in Europe (Estimate, in million)

	In about 1500	In about 1600	In about 1700
Spain and Portugal	9.3	11.3	10.0
Italy	10.5	13.3	13.3
France (Incl. Lorraine and Savoy)	16.4	18.5	20.0
Benelux Countries	1.9	2.9	3.4
British Isles	4.4	6.8	9.3
Scandinavian countries	1.5	2.4	2.8
Germany	12.0	15.0	15.0
Switzerland	0.8	1.0	1.2
Danubian countries	5.5	7.0	8.8
Poland	3.5	5.0	6.0
Russia	9.0	15.5	17.5
Balkans	7.0	8.0?	8.0?
Total for Europe	81.8	104.7	115.3

Source: Roger Mols S.J., 'Population in Europe 1500 – 1700' in Carlo M. Cipolla (ed.) *The Fontana Economic History of Europe, The Sixteenth and Seventeenth Centuries*, p. 38.

The population figures in Western Europe which had witnessed a slow rise from AD 500 suffered a setback as a result of epidemics in the latter half of the sixth century which persisted well into the seventh century. However there was sizeable increase in population from AD 650 to 700. The most rapid population increase is noticed in Italy where it doubled between 650 and 1000 and again doubled between 1000 and 1340. In West and Central Europe there was a three-fold growth between 1000 and 1340. By the last quarter of thirteenth

century population was slowing down in its rate of increase. The big decline starts around the middle of 14th century (mainly because of plague) and by 1450 the total population of Europe is estimated around 50 million as compared to 73.5 million in 1000. The real increase is evident in around 1500 when the population of Europe is 81.8 million. The phase of expansion continues thereafter and reaches around 115 million in 1700.

There is little consensus among historians on the overall population figures for the whole of Europe. The only fixed point in regional documentation are the figures for England around 1085 of 1.3 million culled from the Domesday Book. The hearth surveys from France and fiscal surveys from England, France and Italy reveal the figures of 3.5 million in British Isles, 12-16 million in France, 8-10 million in Italy, Germany and the slav countries also record a high population growth.

The Demographic growth during 1050 to 1250 was also a result of expansion in cultivation, increase in productivity, spread of technology and growth of towns which contributed to better living conditions, a better diet and a rise in birth rate. Famines too were receding even though subsistence crises struck the whole of Europe in 1005-6, 1031-3, 1050 and 1090. The twelfth and thirteenth century saw famines recur at almost regular intervals but as they affected only isolated regions the average population growth was not affected. The decline in wars and conflicts also had a positive effect on population growth. Infanticide, contraception or abortion procedures too seem to have declined in the thirteenth century. This is particularly significant as killing of baby girls was considered one of the causes of stagnation of population growth in the early middle ages. Further, the 'nursing revolution' which led to 'closely spaced births' also contributed to a rise in birth rates. By sending their babies to paid nurses women could conceive again by reducing the interval enforced by breast feeding.

However, by the late thirteenth century population growth seems to have levelled off and may even have declined in the fourteenth century much before the demographic losses inflicted by the Black Death.

The beginning of fourteenth century saw population levels peak in Europe. In Central Italy there were an average of 13 to 14 hearths per square kilometer. The survey of hearths covering 2400 parishes spread over 30000 square kilometer gave average densities of 8 to 15 hearth and in some cases as many as 30 hearths per square kilometer.

There was however no uniformity as some areas maintained their population level, when others were falling. A study of Picardy and Winchester between 1290 and 1340 shows a decrease in number of children per fertile household. The infant mortality rate seems to have increased by almost 50 per cent. The baptism and death register of Givry in Burgundy indicate that almost ten to 15 years prior to the plague the number of deaths rose regularly. In England, on the manor of Halesowen in Worcestershire, population declined by 15 per cent in 1316-17 while Coltishall in Norfolk seems to have maintained its population level until Black Death. In France, Normandy, Provence and Marseille reflect decline but some areas close to Provence show little signs of deceleration. Even in Italy population decline set in much before the Plague. E. Fiumi and D. Herlihy's study of Tuscany has shown that though population stabilised between 1290 and 1320, there was marked decline before the Black Death.

32.5 CHANGES IN DEMOGRAPHY IN MEDIEVAL PERIOD: VARIOUS FACTORS

World population estimates from AD 600 to AD 1500 witnessed an overall increase from 195 million to 440 million, a slow average increase of less than one person per thousand in a year. Even this growth varied not only between regions but also within the same region (UNESCO, *op.cit*). As far as Europe is concerned the period from AD 500 to AD 1450, witnessed an overall increase in European population from 27.5 million to 73.5 million in 1340 and declined to 50 million around 1450 AD. During this period the growth was not constant. In between there were periods when the population dipped sharply (especially after 1348) and again started ascending (Cipola, *The Fontana Economic History of Europe, The Middle Ages*, pp. 36-37)

Thus demographic changes have been attributed to the development in modes of production. Improvements in farming led to an expansion in land under cultivation aided by the development and spread of ferrous metallurgy (iron-axes, iron spades, iron edged hoes and ploughs). Population densities were highest where agricultural technology, urban development and spread of trade formed the salient features of the economy. Migration and Urbanisation were two other important factors of demographic change. Other factors which influenced the fluctuations in population were the marriage pattern, fertility, birth and death trends, family and household structure, diseases, famines and natural calamities etc. In this section we will analyse major factors which were responsible for fluctuations in population.

32.5.1 Migration and Urbanism

Europe experienced continuous wars and conflicts from the sixth to the tenth century as a result of migration of Germanic tribes towards the east, while Slavonic tribes pushed south into the Balkans and eastwards till Volga.

In the seventh century Arab tribes, under the banner of Islam moved into North Africa and by the eighth century crossed over and conquered nearly whole of Spain. In the ninth century invaders from the east, the Magyar tribes occupied Hungary from where they invaded neighbouring countries of Europe. The tenth century saw the movement of Turkish tribes towards Western Asia; by the thirteenth century the formidable Mongols conquered northern China, followed by the Central Asian State of Khwarazm Shah. Between '1237 – 41 Mongol army crushed all the Slavic Kingdoms, which resulted in a population loss of nearly one-third of their total population. By the fifteenth century the Ottoman Turks entered Asia Minor and began making inroads in the Balkan Peninsula as a result of which the Slav population suffered heavy losses. Other European states suffered population losses due to prolonged conflicts like the Hundred Years War between England and France (1337-1453). The crusades launched mainly from France and Germany between 1096 and 1270 also caused population losses in both Europe and the Near East.

Urbanisation was yet another factor which contributed to changes in population distribution and its redistribution. The rise in urban population was more as a result of immigration to cities from rural hinterland than of natural growth. In the early middle ages very few cities went beyond the 10000 mark. But after the tenth century population grew rapidly.

Pre-Modern World: An Overview The size of cities, despite elements of uncertainty, has been used to estimate total population, particularly where distribution of settlements is the only variable for demographic assessment. By the fourteenth century many urban sites (along the Roman highways, on the sea coast and those dependent on other commercial and industrial activity) may have accounted for nearly 7 to 8 per cent of the total population particularly in the Mediterranean Europe. Population levels were highest before the catastrophes of the fourteenth century. Paris had more than 200,000 inhabitants; Palermo and Naples increased their population to c 100,000 as a result of growing commerce. (*The New Cambridge, Medieval History, Vol. VI*, p. 104) In the aftermath of the Black Death, however, urban population recovery was faster due to the revival of urban economies, so that by 1500 urban population had advanced beyond the pre-plague level. By fifteenth century, population of Paris was 274,000, Bruges 125,000, Milan 125,000, Venice 111,000, Genoa 100,000 and Grenada 100,000. (UNESCO *History of Humanity op. cit* p.18). The figures have been frequently debated but nevertheless demonstrate expansion of urban population.

32.5.2 Economic Changes/Growth

The fall in population could also be a result of population outstripping resources. M.M. Postan suggested a 'crises of subsistence' in early fourteenth century and that a malnourished population had become 'calamity sensitive'. The population losses of early fourteenth century were thus 'Malthusian Checks', a rising death rate that tended to reestablish an equilibrium between population and production. However, it must be noted that if production had declined, then the fall in population after 1350 should have relieved the situation. But this did not happen. Decline in food production should have led to a rise in prices (due to scarcity). On the contrary there was a slump in food prices after 1350 and evidence of persistent stagnation. So if the prices of wheat fell it was because of lack of demand and not lack of production. Thus, not only was the seigneurial regime under stress before the Black Death but it is likely that agrarian crises would have existed without the epidemic. Trade and commerce also showed signs of contraction. Exclusivity of craftsman and urban regulations discouraged competition leading to decline in production.

32.5.3 Famines, Diseases and Epidemics

The economic stagnation was accentuated by the famines, diseases and epidemics. The crowded urban centres, unhygienic living and poor medical facilities caused spread of epidemics.

Famines that affected most parts of Europe after 1315 – Germany, Low Countries and France as a result of harvest failures caused by extremely rainy summers and very cold winters; epidemics of livestock diseases and warfare all contributed to increasing death rate. It also points to biological weakness and inability to resist climatic changes and infectious diseases. It has been suggested that disruption of medieval dietary patterns might have given rise to chronic diabetic conditions.

Epidemics of all kinds, diseases resulting from malnutrition surged in the wake of food shortages. Typhus, tuberculosis, malaria, smallpox, influenza and broncho-pulmonary complications all found easy prey in the towns and countryside.

Of these the most devastating epidemic in the mid fourteenth century was the

bubonic plague. This disease was carried by fleas on black rats. In humans it affected the victims by swelling in glandular parts and was highly contagious. The dark blue and black patches appeared on limbs and other body parts. (hence the name Black Death), resulting in death within three days. Probably it first appeared in Mongolia in 1331-32. Moving rapidly along trade routes it reached Crimea from Central Asia by 1339, from where trading ships carried it to Italy in 1347. In December it spread to France; in June 1348 it reached Paris and by December, the Channel, Low Countries and Southern England. In 1349 it ravaged Britain and passed into Germany, Austria, Scotland, Scandinavia, right down to Spain. The plague reappeared in 1360 with complications such as influenza, lasting for two years. It revisited in 1368-70 and again from 1375-78, 1380 to 1383, 1399 and 1400. In 1418 its onslaught was more deadly because of weakened resistance due to epidemic of typhus fever and whooping cough in 1408. The years 1420, 1421, 1433, 1438 to 1441 reeled under its onslaught till it began to fade after 1440s, although it continued its death march till 1510.

Historians have been unable to specify the plague's exact numerical impact everywhere. Global estimates vary between one fifth and one half of the European population. The only complete estimates available are for England; according to the tax records between 1338 and 1415, population numbered around 3, 125,000 on the eve of the epidemic. In 1358 it fell to around 2,750,000. By the beginning of fifteenth century, the population was just about two million. Elsewhere in Givry 750 out of total population of 1800 were buried in 1348; at Perigueux, Lyon, Reims, Ypres and Florence, an average of 25 to 35 per cent of their population died. Statistics from France based on series of local or regional burials reveal that the Black Death between 1347 and 1350 stands out as the crucial factor of mortality.

The decline was followed by a period of fluctuation and stagnation. In England's Essex county, manorial lists reveal adult male population at one half of what it was in 1300. The picture does not change much for most of Europe.

The reasons for this widespread devastation by the plague are still not very clear. Changing climatic conditions and urban overcrowding certainly contributed to large number of deaths. Everywhere with the exception of a few regions (like Hungary), that the Black Death for some reason missed, the sudden demographic decline affected prices and wages and thus value of land and relation between lords and peasants. In England an attempt to secure the lords position is evident from the imposition of a 'wage freeze' according to the Statute of labourers, while in France a similar ordinance was issued in 1351. This was a period of tremendous social tension. The Peasants Revolt in England in 1381, the Jacquerie in France in 1358, the French revolts in 1382, the revolt in Florence in 1378 owed much to the attempt by ruling classes to maintain pre-Black Death status quo.

At the same time the effect of Black Death differed among Europe's various regions indicating a disparity in the socio-economic conditions prior to the plague. The Black Death only accentuated already existing crises manifested by famine and a stagnating or declining population. There is little doubt that rural population loss continued after 1348 and created long term radical economic and social dislocation. In England and Germany, villages were abandoned and loss of number of inhabited places is evident. However, despite

this desertion, the overall fall of population did not mean a proportionate abandonment of fields or loss in productivity of land. The demographic decline only reduced the pressure on less fertile land. Agricultural prices and value of land contracted due to reduced demand while wages went up due to reduced supply. But the towns, although severely affected by the Plague, continued to show signs of vitality with new towns coming up as a result of trade and commercial activities.

Although the signs of recovery were very slow even well into the mid-fifteenth century, the foundations for modern Europe were being laid. The Plague was in retreat but other disease like typhus and tuberculosis continued to affect population statistics down to mid sixteenth century. Even though there was less food shortages, famine still ravaged France and low countries in 1481 and 1492, and west Germany between 1522 and 1525. Agricultural revival as a result of decline in demand for land meant that peasants could improve their volume of production, with a consequent rise in living standards and a fall in mortality rate. The average number of children in fertile households was beginning to rise again. In Lyonnais, the average number of children per woman was 3.9 before Plague, fell to 1.8 in 1430 and climbed back to 4.5 or 5.1 in 1480. Improved food supply and a return to the matrimonial model in which girls were married off at an early age contributed to a growing birth rate.

This reversal in population trend is difficult to measure or date. The general movement was not only slow but extremely diversified – in some areas population continued to decline till the end of the fifteenth century, while in others (Burgundy, Lyonnais, Essex) population started to increase from 1440. There was thus no uniform progress, more so since population figures began to fall again in 1550. Immigration into towns contributed after 1450 although the flow of people changed direction according to circumstances. Certain towns such Vannes, Rennes, Selestat or Colmar were repopulated by new comers.

In the post-epidemic period there is initial evidence of population recovery. In one district of Florentine *Contado* with an index of 100 in 1350, there is a modest recovery to 107 in 1357, a decline to 78 in 1400 and further fall to 62 in 1427. In the Caux region in Normandy, with a hearth index of 100 in 1314, there is a decline to 97 in 1347 and to 45 in 1374-80, which climbed back to 65 in 1410. However viewed in long term the demographic recovery was extremely slow, but the phases of recovery necessitate a look into other demographic constituents.

32.5.4 Life Expectancy and Death Rate

According to Russell there was rise in life expectancy from twenty two to thirty five years between 1100 and 1275. The life span infant was even higher. This would certainly indicate a fall in mortality rates. Apart from archaeological evidence from medieval cemeteries, the best male evidence for all ages comes from the English inquisitions post mortem from 1200 to the end of Middle Ages and provides us with information regarding a general pattern of life span in Europe. The life expectancy of those thirty years of age and over is consistent throughout both the plague and non-plague period. However there is little information regarding the life span of women and children. The life span of medieval women was not very high (frequent child bearing and heavy field work resulting in poor health made them more susceptible to disease), although

their mortality rate is difficult to ascertain. The records of ancient obstetricians could perhaps throw some light on this.

Although the calculations are based on estimated ages to deaths, they indicate a shortened life span at the end of the fourteenth century, even for those who survived the high levels of infant mortality. Among the Benedictine Monks of the priory of Christ Church, Canterbury, the life expectancy, twenty or twenty-five years was lower in generation of monks born in the second quarter of fifteenth century who entered between 1445 and 1480 than among those who entered after 1395. The age structure reflects the effects on different generations. To some extent everywhere the youngest age categories suffered in relation to the oldest. At Reins in 1422, in the Parish of St. Peters, those under fifteen years were a quarter of the population while those over 60 years, 7 per cent. However, it is difficult to examine the exact variations between the end of thirteenth and beginning of fifteenth century, the difference in death rate dependent on age and gender remain equally little known.

32.5.5 Birth and Fertility

The birth rate and nuptiality too suffers from an absence of data on total population. Female population was much less documented and recorded than male, except perhaps for a small upper section of society and even in those registration of birth was partial and irregular.

The estimates provided by Slicher Van Bath, W Abel, L. Genicot, R Fossier and A. Chedeville, based on the number of children per fertile household, give the following margins for average number of children:

<u>1050-1100</u>	<u>1100-1150</u>	<u>1150-1200</u>	<u>1200-1250</u>	<u>1250-1300</u>
4.2-5.7	4.8-5.3	4.3-5.2	5.3-5.4	5.2-5.75

Source: Robert Fossier, ed. *The Cambridge Illustrated History of the Middle Ages*, Vol 3, Cambridge, 1997, p. 245

In the long run this gives a relatively low average growth rate but because it lasted for nearly a century there is considerable evidence for population growth between 1050 to 1250.

It appears likely that after the epidemic of 1363-4, the birth rate increased for two or three years. The *catasto* of 1427 indicates a jump in birth rate after the plague of 1424. The link between short term movements in mortality and natality is also evident from a comparison of graphs of baptisms and burials. At the end of fifteenth century in each epidemic baptism at Florence and Bologna demonstrate drops by 12 to 30 per cent in relation to normal periods, then peak two, or sometimes three, years after the departure of the plague. A probable reason could be the flight of couples from towns and baptism of their children in some other parishes. There is also evidence of extreme fecundity of women after the plague. This is obvious from comparison of fertility and ultimate descendents of couples made just before and after the epidemic.

32.5.6 Marriage

The study of marriage pattern clearly indicates that marriages were interrupted during an epidemic but peak immediately after and continue to remain so for the next year. At Givry, an average of ten to twelve marriages took place each

year, before the Plague and in 1348 there were none but in the subsequent year eighty six weddings took place. (However the number of marriages declined – people married later and the average age of brides, for example in champagne rose from 18 to 22 and to 24 around 1430). Of these unions, many were between widows and widowers who remarried once the epidemic passed. The young married, either because they had come into an inheritance, a landholding or business and wished to establish themselves quickly. The higher fertility levels of these new couples would explain the increase in birth rate after the plague. However, like the death rate, the nuptiality of the late middle ages is highly variable in the short term and much more ‘rigid’ in the long term. Immediately after the plague marriages gave a spur to birth rates but considered over long periods the recovery was slow.

Study of marriage has been influenced by two lines of inquiry. The first, according to John Hajnal was a specific European marriage pattern characterised by late marriages or even a large unmarried population. According to Richard Smith the European marriage pattern was prevalent much earlier than Hajnal indicated and also that this was mainly found in northern Europe. While the Mediterranean countries were characterised by a relatively early age at marriage and high age difference between spouses.

However, statistics for the beginning of fourteenth century from Tuscany indicate that age of marriage of woman was under twenty years and that of men over twenty two years which probably touched thirty in towns and among the rich. This seems to be true for Spain, parts of France and Italy. Thus regional studies now prove contrary to Hajnal’s ‘European’ model of marriage. Studies of different regions in England provide diverse conclusions – early marriages before the Black Death while in some areas ‘European’ model is evident towards the end of the thirteenth century. Hallam, on the basis of seigneurial tax upon marriage, the *merchet*, estimates a female age of first marriage of 21.4 and a male age of 26.1 years before the Black Death; it changed to 24.6 for females and 25.5 years for males after the Black Death. Interestingly Smith used the same documents to prove a ‘north-west Europe’ model. There is thus considerable debate among historians regarding marriage patterns in the medieval world.

32.5.7 Family and Household

Marriage and family among other social bonds, have become central objects for the understanding of past populations. ‘family Structure’ not only influenced demographic trends but was in turn affected by population movements. The ‘hearth’ (household) statistics are the only source available for understanding family structure for the Middle Ages. Evidence from Tuscany points to a disjuncture between the decline in population – approximately 33 per cent in the towns and 15 per cent in the country between 1350 and 1427 – and a more steep fall in the number of households. This disjuncture could find an explanation in the structure of households, which however remains obscure because numerical index do not give any information regarding the character of the domestic group. It has been suggested that the western couple came into being once it attained a degree of economic independence, in other words, very simple family structures within nucleated units. However, meagre evidence makes it difficult to generalise. Regional studies, for example in France, indicate far more complex and numerous household units as in juridical forms of association between relatives, establishment of *Frereches* in fourteenth and fifteenth century.

The high death rate as a result of subsistence causes and the plague may have modified domestic structures in different ways. The flights into town and abandoning of land may have certainly broken family bonds and resulted in reconstituting family structures. The number of vestigial households, comprising single individuals, orphaned successors and surviving spouses increased. However, remarriage of widows was an important feature in the first half of the fourteenth century than after Black Death. The increased death rate resulted in quicker distribution of land and benefited the young. In Coltishall, Norfolk, between 1349 and 1359, the fall in number of women holding a farm corresponded to replacement ratio of deceased tenants by their surviving sons. A correlation between the lowering of age and greater frequency of marriage contributing to increased fertility can thus be linked to changing forms of access to land and its beneficiaries. Although some recent works demonstrate the high fertility of couples consisting of one remarried spouse. Thus socio-economic and cultural factors which influenced family structures in turn affected demographic variables.

32.6 SUMMARY

This Unit focuses on important aspects of demographic changes in the medieval period. It also attempts to link the position to the modern period with changes in population patterns. Aspects like family, marriage patterns, births and death rates, urbanisation etc. affected various population shifts and also were responsible for bringing about new social, economic patterns. Yet the changes in population were neither accidental, nor there could be an instrumentalist explanation for the link between population change and societal change. It is all the more important because a large section of this debate has been conceived by identifying various kinds of sources for computing population shifts and which is still going on.

32.7 EXERCISES

- 1) What are the sources of computing populations in the medieval world? How far can they be termed as authentic?
- 2) What were the shifts in the population graph of Europe and Asia from early to the late medieval period? Discuss briefly.
- 3) How did the Plague and other diseases affect the population in medieval Europe?
- 4) In what ways factors like birth rate, death rate, family and marriage figure in population shifts?

**MEDIUM ESTIMATES OF WORLD POPULATION BY
REGIONS AND IN COUNTRIES (IN MILLIONS)**

	AD 1	600	1000	1300	1500
WORLD TOTAL	170-185	195-220	265-290	370-405	440-475
EUROPE (excl. Russia)	30-35	25-30	40-45	75-80	80-85
Italy	7	3.5-4.5	5-7	10	9-10
France	6	4-5	6-7	16-17	15-16
Spain and Portugal	5-6	4	9-10	7-8	7-8
Britain and Ireland	1	1	2-3	4-5	5-6
Germany	2-3	3-4	4-6	8-9	10-11
Russia	5-7	5-6	9-10	12-13	15-16
ASIA (excl. Russia)	115-120	140-150	180-190	230-250	270-290
India	35-40	50-55	70-80	80-90	100-110
China	50-60	50-60	60-70	85-95	110-120
Japan	1	3	4-5	9-10	15-17
Turkey	5-7	5	7	7	6
Syria and Lebanon	3-5	3-4	2-3	2	2
AFRICA	15-20	20-25	30-35	40-45	50-55
Egypt	4-6	3-5	3-5	4-5	4-5
Maghrib	3-4	2-3	4-5	5-6	5-6
West Africa	2-4	4-5	7-8	9-10	12-13
East Africa	2-3	4-5	6-7	8-9	10-11
CENTRAL and SOUTH AMERICA	2-3	4-5	5-10	10-15	20-35
NORTH AMERICA	1	1-2	1-2	2-3	2-3
AUSTRALIA and OCEANIA	1	1	1.5	1.5-2	2

Source: History of Humanity: Scientific and Cultural Development, Vol IV, (Eds.) M.A. Al-Bakhit, L. Bazin, S.M. Cissoko, UNESCO and Routledge, 1994.