THEME III

ECONOMY AND SOCIETY

Time Line

Land Revenue

Rural Society

Trade

Technology

Urbanisation

***Caravansarai*, Mandu**
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UNIT 10 LAND REVENUE*

Structure

10.0 OBJECTIVES

This Unit discusses how the Ghorian conquest and the establishment of the Delhi Sultanate affected the Indian economy and attempts to highlight the changes that occurred during the course of the Sultanate. In this Unit, we will also discuss some important aspects of Mughal land revenue system. After going through this Unit, you will be able to learn about:

- the nature of land revenue system of the Delhi Sultans and its extraction,
- price control measures of Alauddin Khalji,

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- the methods of assessment under the Mughals,
- the magnitude of land revenue demand under the Mughals,
- mode of collection of land revenue under the Mughals,
- the different methods used to collect the land revenue under the Mughals,
- what sort of relief was available to peasants in case of adverse circumstances under the Mughals,
- the duties and obligations of different officials engaged in land revenue extraction under the Mughals,
- the increasing use of money in economy and the currency systems of the Delhi Sultans and the Mughals, and
- the working of the Mughal mints.

10.1 INTRODUCTION

The conquest of Northern India by the Ghorids and the establishment of the Delhi Sultanate not only changed the existing political structure but also brought economic changes. The conquerors came with fairly well-defined concepts and practices regarding tax collection and distribution, and system of coinage, etc. But the existing systems could not be changed altogether immediately: in the beginning, these were superimposed on the older systems, and modifications and changes were introduced by different Sultans upto the close of the 15th century.

In the opinion of Mohammad Habib, the economic changes that occurred as a consequence of the establishment of the Delhi Sultanate created an organization considerably superior to the one that had existed before. He felt that the changes were drastic enough to deserve the designation of 'Urban Revolution' and 'Rural Revolution'. D.D. Kosambi recognised that 'hidebound customs in the adoptation and transmission of new techniques' were broken down by the 'Islamic raiders', but he regarded the changes no more than intensifying elements already present in Indian 'feudalism'.

The regions that refused to pay land-tax or *kharaj* were known as *mawas* and were plundered or forced to pay through military raids. Gradually a mechanism of simultaneous revenue collection and distribution had to be introduced.

The central feature of the agrarian system under the Mughals was the alienation from the peasant of his surplus produce (produce over and above the subsistence level) in the form of land revenue which was the main source of state's income. Early British administrators regarded the land revenue as rent of the soil because they had a notion that the king was the owner of the land. Subsequent studies of Mughal India have shown that it was a tax on the crop and was thus different from the land revenue as concieved by the British. Abul Fazl in his *Ain-i Akbari* justifies the imposition of taxes by the state saying that 'these are the remuneration of sovereignty, paid in return for protection and justice'.

In this Unit we will study the economic institutions and changes that the Delhi Sultanate and the Mughals introduced.

10.2 *KHALISA*

The territory whose revenues were directly collected for the Sultan's own treasury was designated *khalisa*. Its size seems to have expanded quite considerably under Alauddin Khalji. But the *khalisa* did not appear to consist of shifting

territories scattered throughout the country. In all probability, Delhi along with its surrounding district, including parts of *Doab* remained in *khalisa*. In Iltutmish's time, Tabarhinda (Bhatinda) too was in *khalisa*. Under Alauddin Khalji, the *khalisa* covered the whole of middle *Doab* and parts of Rohilkhand. But during the days of Firuz Tughlaq, the *khalisa* perhaps had reduced considerably in size.

Under the Mughals *khalisa* or *khalisa-i sharifa* was not fixed instead kept on fluctuating. Under Akbar it was approximately 25 per cent of the total *jama*; under Jahangir it shrank to less than five per cent of the total *jama*; under Shahjahan it amounted to 1/7th of the *jama*; while under Aurangzeb it became 1/5th of the total *jama*. However, still almost 4/5th revenue of the empire was alienated in the form of *jagirs*.

10.3 LAND REVENUE AND ITS EXTRACTION UNDER THE DELHI SULTANS

The Islamic land tax with which the new rulers of India were familiar was *kharaj*. The *kharaj* was essentially a share in the produce of the land and not a rent on the land.

During the 13th century, the *kharaj* took by and large the form of tribute. This tribute was paid, in lump sum, either by the potentates surviving from the previous regime with whom the Sultanate ruling class entered into some arrangement. Alternatively, from the recalcitrant areas (*mawas*) where such arrangements were not possible, the tribute was extorted through plundering raids. It was thus probably mostly in the form of cattle and slaves.

The sources of Delhi Sultanate do not suggest that before the reign of Alauddin Khalji (1296-1316) any serious attempt was made to systematise the assessment and realization of *kharaj*.

10.3.1 Agrarian Measures of Alauddin Khalji

Alauddin Khalji's attempt was to increase the revenue collection by enhancing the demand, introducing direct collection and cutting down the leakages to the intermediaries.

As you know, the demand was thus fixed in kind but realization appears to be mostly in cash. Barani informs us that the revenue collectors were ordered to demand the revenue with such rigour that the peasants should be forced to sell their produce immediately at the side of the fields. At another place, Barani says that Alauddin Khalji brought the Doab into *khalisa* and the tax (***mahsul***) from there was spent on paying the cash salaries to the soldiers.

Yet there is a rather contradictory statement by the same author that the Sultan ordered that the peasant should pay tax in kind and not in cash. According to Irfan Habib, it seems to have reference to only some parts of the *khalisa* in the Doab. From there the Sultan wanted to obtain supplies for his granaries. Otherwise the realization was normally in cash.

Yet these new measures affected the rural intermediaries which we will discuss in **Unit 11**.

The system of taxation introduced by Alauddin seems to have lasted for long though Ghiyasuddin Tughlaq (1320-25) modified it to some extent and exempted the *khots* and *muqaddams* from paying tax on their cultivation and cattle. But he did not permit them to impose any cesses on the peasants.

10.3.2 Agrarian Measures of Muhammad Tughlaq

Muhammad Tughlaq first extended Alauddin Khalji's system of revenue collection based on measurement to Gujarat, Malwa, Deccan, South India and Bengal. At a later stage, the scale of agrarian taxation was enhanced considerably. Barani's statement that the increase amounted to 20 or 10 times is undoubtedly a rhetoric but it certainly gives the impression of an enormous increase. Barani suggests that additional new imposts (*abwab*) were levied. Of the other taxes, *kharaj*, *charai* and *ghari* were more rigorously collected. According to Yahya, cattle were branded and cottages counted to avoid any concealments. But more important than these measures was the fact that for assessment of *kharaj*, *wafa-i farmani* (officially decreed yields) and *nirkh-i farmani* (officially decreed prices) were used. The statement very clearly implies that the yields and prices used for calculating revenue were not actual.

One could very well expect that the decreed yields and prices were certainly inflated. Use of inflated yields instead of actual and prices much higher than what were prevailing, had the obvious result of overstating the value of produce and thus the share of the state. This tremendous increase in revenue demand resulted in contraction of area under plough, flight of peasantry, and, as we will see in **Unit 11** in a big peasant revolt in the Doab and around Delhi. This caused failure of grain supplies to Delhi and a famine that lasted for about seven years, from 1334-5 to 1342.

Faced with these problems, Muhammad Tughlaq became the first Sultan to attempt to formulate an agricultural policy for promoting agriculture. He introduced the practice of giving agricultural loans named *sondhar* for increasing the area under plough and for digging wells for irrigation. Barani says that 70 lakhs *tankas* (according to Afif 2 *krors tankas*) were given till 1346-7 in *sondhar* but perhaps hardly any amount reached the peasantry.

A new ministry designated *diwan-i amir-i kohi* was established to promote agriculture. Its two main functions were to extend the area under cultivation and to reclaim the land that went out of cultivation and improving the cropping pattern. It was recommended that wheat should be replaced by sugarcane and sugarcane by grapes and dates.

The Sultan was so determined to introduce his project of agricultural improvement that when a theologian said that giving loan in cash and receiving the interest in grain was sin, he executed him.

Barani, however, says that all these measures were almost a complete failure. Firuz Tughlaq (1351-88) abandoned these projects, abolished agrarian cesses, and forbade levying of *ghari* and *charai*. But he is reported to have imposed a separate tax – *jiziya* – distinct from *kharaj* (land-tax) on the peasants. He also introduced an irrigation tax (*haqq-i sharb*) in Haryana where he dug up canals.

There is little information forthcoming for the intervening period but in all probability the land tax continued to be collected in cash by whomsoever be the rulers, till the time of Ibrahim Lodi (1517-26). Owing to the scarcity of currency and cheapening of the grains, he is reported to have ordered collection of land revenue in kind or in grain.

Check Your Progress-1

1) Discuss the land revenue system introduced by Alauddin Khalji.

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2) Indicate the correct and wrong statements given below by marking (✓) or (×):

a) The areas which did not pay *kharaj* without the use of force were called *mawas*. ( )

b) Ghiyasuddin Tughlaq imposed tax on the cultivation and cattle of *khots* and *muqaddams*. ( )

c) Ibrahim Lodi ordered for the collection of revenue in cash. ( )

10.3.3 Alauddin Khalji's Market Control Policy

Alauddin Khalji's measures did not remain confined to rural economy but extended to urban market as well. He is credited for issuing a set of seven regulations which came to be known as market-control measures. Barani, who is our main source on this aspect is the only authority who gives these regulations in detail.

The Sultan fixed the prices of all commodities from grain to cloth, slaves, cattle, etc. (**Regulation 1**). These prices were really to be enforced since the Sultan carefully made all arrangements for making the measure a success. A controller of market (*shahna-i mandi*), *barids* (intelligence officers) and *munhiyan* (secret spies) were appointed (**Regulation 2**). The grain merchants were placed under the *shahna-i mandi* and sureties were taken from them (**Regulation 4**). The Sultan himself was to receive daily reports separately from these three sources (**Regulation 7**). Regrating (*ihtikar*) was prohibited (**Regulation 5**). While ensuring strict control in the market, the Sultan did not overlook the more essential requirement, namely the regular supply of grains and other things at lower prices.

Prices of some commodities as mentioned in contemporary accounts of the Sultanate period

No.	Commodities	Alauddin Khalji	Muhammad Tughlaq	Firuz Tughlaq
		(Prices in jitals per maund)		
1	Wheat	7½	12	8
2	Barely	4	8	4
3	Paddy	5	14	–
4	Pulses	5	–	4
5	Lentils	3	4	4
6	Sugar (white)	100	80	–
7	Sugur (soft)	60	64	120,140
8	Sheep (muttort)	10-12	64	–
9	Ghi (clarified butter)	16	–	100

Table of prices is reproduced from K.M. Ashraf's, *Life and Conditions of the People of Hindustan*, Delhi, 1970, p. 160. The Table compiled from different sources shows that the prices of these commodities went up under Muhammad Tughlaq but dropped under Firuz Tughlaq to the price level of Alauddin Khali's reign.

Obviously, the grain merchants could bring supplies to the market only if they could get the grains and that, too, at sufficiently low prices. It was apparently for this reason that the Sultan decreed such a rigour in realization of land revenue in the Doab that the peasants should be forced to sell the grain to the *karvanian* (the grain merchants) at the side of the field **(Regulation 6)**.

The Sultan established granaries in Delhi and in Chhain in Rajasthan. The land tax from the *khalisa* in the Doab was realised in kind. The grain went to the state granaries (**Regulation 3**). The Multanis who were cloth merchants were given 20 lakhs of *tankas* as advance loan to purchase and bring cloth to the market.

The Sultan succeeded in maintaining low prices and ample supplies in the market as reported by all our authorities. But there are varying reasons mentioned for why the Sultan introduced the market control and in what region it was enforced. The poet courtier Amir Khusrau considers the measure to be of immense generosity taken for the welfare and comfort of all, the elite as well as the public at large. The Chishti divine Nasiruddin Mahmud (Chiragh Delhi) attributes it to the Sultan's effort to do good to all the people. But the historian Barani's view was totally different. He did not credit it to Sultan's benevolent intentions but gives a hard financial reason. The Sultan was anxious to have a large army and to take other precautions such as building of forts at strategic places, fortification wall around Delhi, etc. against the Mongol invasions. If numerous additional cavalrymen and troops were to be employed at the prevailing salaries, the drain from the state treasury was to exhaust it totally. The salaries could be reduced only if the prices were kept at a sufficiently low level.

Barani's reasoning appears of course more valid. Since the main *lashkargah* (army encampment) was in Delhi and most of the royal troops were to be stationed in or around Delhi, the main area of price control was Delhi itself. However, since the supplies of cheap grain were to be made available to the grain merchants in the surrounding districts of the Doab, the low prices ought to be prevalent there as well.

The market control did not survive its enforcer and we do not hear about it after Alauddin Khaiji's time. A very efficient and alert administration was imperative for the success of price control. Therefore, one possible reason for its not surviving could be the lack of sufficiently competent administration. Irfan Habib, however, offers a different reason for the abandonment of price control by the successors of Alauddin Khalji. Since the prevalence of low prices implies lower revenues from the low-price zone, the price control was viable as long as the zone of low prices was restricted and most of the expenditure was concentrated there. With the Mongols no more remaining a threat, the army and the expenditure was to be dispersed more widely and not to be concentrated at and around Delhi alone. The interest of the state treasury was now in dismantling the price control.

Check Your Progress-2

1) Discuss the measures taken by Alauddin Khalji to introduce 'price control'.

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2) Explain briefly the reasons for:

a) Introduction of price control according to Barani.

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b) Dismantling of price control under the successors of Alauddin Khalji.

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10.4 REVENUE ADMINISTRATION OF THE DELHI SULTANS

What was the revenue system during the 13th century? We do not get a clear picture; even the exact magnitude of the revenue-demand under the Ilbarite rule is uncertain. Perhaps the old agrarian system continued to function with the difference that the composition of the supreme appropriators of the surplus produce at the centre had changed, that is, the Turkish ruling group had replaced the previous receivers of the land revenue. However, some reconstruction can be made by projecting back the account of Barani about the situation prevailing in this respect under Sultan Alauddin Khalji's early rule. Briefly, we are told of three groups of rural aristocracy – *khot*, *muqaddam*, and *chaudhuri* – who collected land revenue (*kharaj*) from the peasants on behalf of the state, and deposited the same with the officials of the *diwan-i wizarat*. For this service, they were allowed perquisites (*haqq-i khoti*) as remuneration by the state which consisted of being exempted from the revenue of a portion of land held by them. Also, they took something from the peasants as their share of the produce which Barani calls *qismat-i khoti*. Besides land revenue (*kharaj*), every cultivator had to pay house tax (*ghari*) and cattle or grazing tax (*charai*). Incidently, the *chaudhury* might not have been directly involved in the collection of the revenue because, according to Ibn Battuta, he was the head of "hundred villages" (*pargana*): this inference is reinforced by the fact that Barani always employs terms like *haqq-i khoti* or *muqaddami*, but never *haqq-i chaudhrai*. W.H. Moreland, however, uses the term intermediaries for all the three groups; and we shall be doing the same henceforth.

What motivated Alauddin Khalji in introducing stern measures is explained by Barani in detail (see **Sub-section 10.3.1**). In short, the intermediaries had become intractable – always in readiness for rebellion. The Sultan levelled the following main charges against them:

a) They did not pay the revenue themselves on that portion of their land which was not exempted from assessment; rather they shifted their 'burden' onto the peasantry, that is, they realised additional levy from the peasants besides the fixed demand of the state in order to pay their own dues.

b) They did not pay the grazing tax.

c) The ill-gotten 'excess of wealth' had made them so arrogant that they flouted the orders of the revenue officials by not going to the revenue office even when summoned to render accounts.

As a result, the Sultan had to strike at their resources for economic and political reasons. The measures taken by him were as follows:

i) The magnitude of the state, demand was set at half the produce of the land. The land was to be measured (*masahat*), and the land revenue fixed on the yield of each unit of the area. The term used was *wafa-i biswa* (*wafa* = yield; *biswa* = 1 /20th of a *bigha*). Most probably, it was levied separately on the holding of each individual cultivator.

ii) The intermediaries and the peasants alike were to pay the same standard of the demand (50%) without any distinction, be they intermediaries or 'ordinary peasant' (*balahar*).

iii) The perquisites of intermediaries were disallowed.

iv) The grazing and the house taxes were to be taken from the intermediaries also.

It can be seen, then, that one objective was to free the peasants from the illegal exactions of the intermediaries. That is exactly what Barani means when he says that the Sultan's policy was that the 'burden' (*bar*) of the 'strong' (*aqwiya*) should not fall on the 'weak' (*zuaja*). We know that this 50% demand was the highest in the agrarian history of India. On the other hand, though the peasants were protected now from the economic oppression of the intermediaries, the former had to pay a higher rate of taxation than they did earlier. Since the rate was uniform in a sense it was a regressive taxation. Thus the state gained at the cost of the intermediaries, leaving the peasants in the lurch.

> Such peasants as were weak and without resources were completely made prostrate, and the rich peasants who had resources and means, turned rebels. Whole regions were devastated. Cultivation was totally abandoned. The peasants of distant regions, hearing of the ruin and destruction of the peasantry of the Doab, fearful that the same orders might be issued for them as for the latter, turned away from obedience and fled to the jungles. The two years that the Sultan was in Delhi (*c.* 1332-4), the country of the Doab, owing to the rigours of revenue-demand and the multiplicity of *abwab* (additional cesses), was devastated. The Hindus set fire to the grain heaps and burnt them, and drove away cattle from their homes. The Sultan ordered the *shiqqdars* and *faujdars* (revenue collectors and commanders) to lay waste and plunder the country. They killed many *khots* and *muqaddams*, and many they blinded. Those who escaped gathered bands and fled into jungles; and the country became ruined. The Sultan in those times went to the district of Baran (modern Bulandshahr), on a hunting expedition; he ordered that the entire district of Baran be plundered and laid waste. The Sultan himself plundered and laid waste from Kanauj to Dalmau. Whoever was captured was killed. Most (peasants) ran away and fled into the jungles. They (the Sultan's troops) surrounded the jungles and killed every one whom they found within the jungles.
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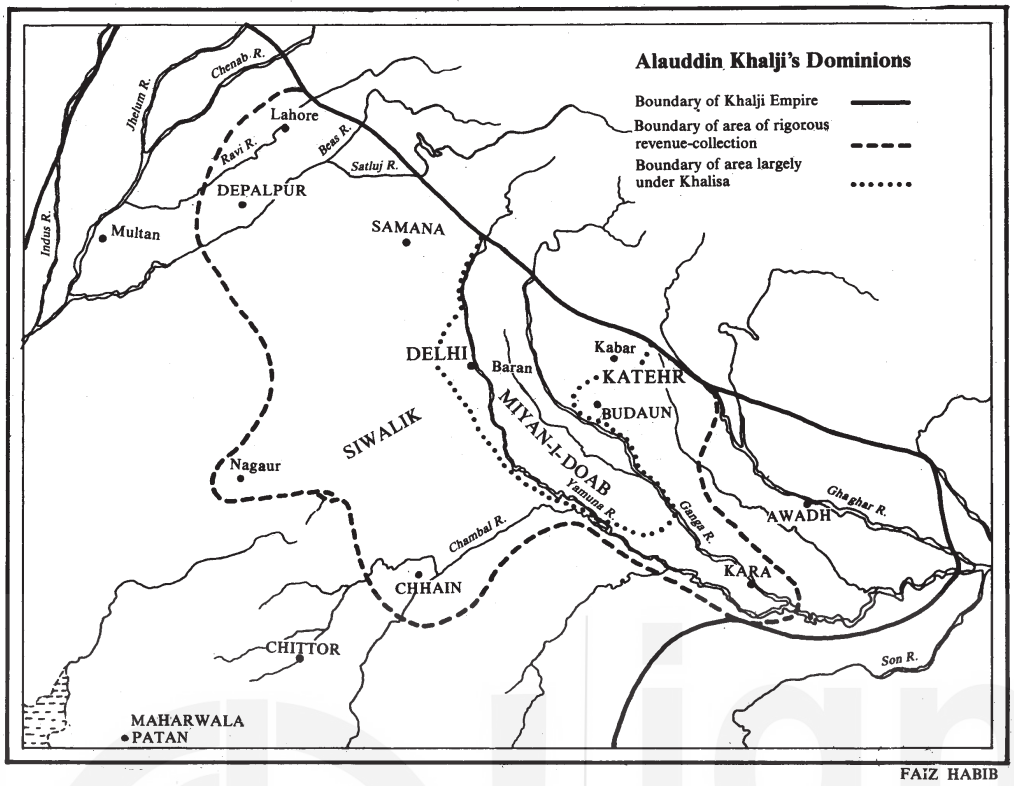
> **Ziauddin Barani's account of the oppression of the peasantry during Muhammad Tughlaq's reign. English translation is from, *The Cambridge Economic History of India*, Vol. I, ed. Tapan Raychaudhuri and Irfan Habib, London, 1982, p. 64.**

It is true that the intermediaries were eliminated from direct revenue collection, but they were still expected to maintain law and order in the countryside and help the revenue officials without any remuneration or perquisites. The state's direct relations with the peasants resulted in an expansion of revenue officials called variously '***ummal***, *mutasarrif*, *mushrif*, *muhassilan*, *navisindagan*, etc. Soon, large scale corruption and embezzlements surfaced among the revenue officials for which they were ruthlessly punished by the *naib wazir*, Sharaf Qaini: about 8 to 10 thousand officials were imprisoned. The process for discovering the deceit was simple: the *bahi* or the ledger of the village *patwari* was meticulously scrutinised by the auditors. The ***bahi*** contained every payment, legal or illegal, made to the revenue collectors, and these payments were then compared with the receipts. Corruption occurred in spite of the fact that Alauddin Khalji had raised the salary of the revenue collectors.

Barani gives an indication of the extent of the area where these measures were operative: it was quite a large area, covering the heart of his empire. But Bihar, Awadh, Gujarat and parts of Malwa and Rajputana are not mentioned. At any rate, it must be borne in mind that these measures were largely meant for the *khalisa* ("crown" or "reserve" land).

As for the mode of payment, Moreland thinks that ordinarily payment in cash was the general practice during the 13th century, and it had become quite widely prevalent by the 14th century. However, Alauddin himself preferred collection in grain. He decreed that the whole revenue due from the *khalisa* in the Doab should be realized in kind, and only half the revenue due from Delhi (and its suburbs) in cash. The reason for his preference for collection in grain was not only to have a large reserve of grain stored at Delhi and other areas for contingencies (such

as scarcity owing to drought or other factors), but also to utilize the storage as a lever for his price-fixation measures in the grain market.



Map 10.1: Rigorous Revenue Collection Area under Alauddin Khalji's Dominion
Courtesy: Faiz Habib, Centre of Advanced Study in History,
Aligarh Muslim University, Aligarh

Two important changes were introduced by Ghiyasuddin Tughlaq:

a) The intermediaries got back their *haqq-i khoti* (but not *qismat-i khoti*). They were also exempted from the house and cattle tax.

b) The procedure of measurement (*masahat*) was to continue along with observation or "actual yield" (*bar hukm hasil*).

As for Muhammad Tughlaq, there is a confusion that he enhanced the rate of land tax beyond 50%. It is also thought that after the death of Alauddin Khalji, the rate was reduced by the Khalji rulers which was later raised to the previous level by Muhammad Tughlaq. Both these views are incorrect: the rate fixed by Alauddin was never sought to be tampered. What Muhammad Tughlaq actually did was to impose new cesses (*abwab*) as well as revive the older ones (for example, *charai* and *ghari* on the intermediaries). Apart from this, it seems that measurement alone was retained for assessment purpose. The matter aggravated when assessment in kind (grain) was carried out not on the principle of the "actual yield" but on the officially decreed yields (*wafa-i farmani*) for each unit of the measured area. Again, for payment in cash, commutation was not done according to the market prices but on the basis of the rates as "ordered by the Sultan" (*nirkh-i farmani*). And, then, as Barani says, all these taxes and cesses were to be realized rigorously. The area covered under these regulations was the *khalisa* land in the Doab. The result was obvious: an unprecedented rebellion of the peasants, led by the intermediaries, occurred which led to bloody confrontations. Firuz Shah claims to have abolished twenty three cesses including *charai* and *ghari*.

Another development that took place, especially under the Tughlaqs, was the practice of revenue-farming, that is, the task of collecting the revenue of some

areas was sometimes given to contractors who perhaps gave a lump sum in advance for the right of revenue collection for a certain period. Under Firuz Shah, 'water tax' (*haqq-i sharb*) was taken from those cultivators who irrigated their land from the water supplied from the canals constructed by the state. It must be pointed out that in case of bad harvest, the state tried to adjust the land tax, and also gave agricultural loans to the peasants called *sondhar* in Muhammad Tughlaq's reign.

What was the total estimated revenue during any period of the Delhi Sultanate? No such attempt seems to have been made before the reign of Sultan Firuz Shah Tughlaq. 'Afif tells us that at the order of this Sultan, Khwaja Hisamuddin Junaid determined the *jama* (estimated revenue) of the kingdom according to the "rule of inspection" (*bar hukm mushahada*). It took six years to do this job, and the figure arrived at was six *kror* and seventy-five lakhs *tankas* (a silver coin) which continued to be valid for the entire reign of the Sultan.

Check Your Progress-3

1) What measures did Alauddin Khalji take to eliminate the intermediaries?

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2) Define the following:

a) *Khalisa* .....

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b) *Kharaj* .....

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c) *Abwab* .....

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e) *Sondhar* .....

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10.5 MUGHAL LAND REVENUE SYSTEM

The Persian term for land revenue during the Mughal rule was *mal* and *mal wajib*. *Kharaj* was not in regular use.

The process of land revenue collection has two stages: (a) assessment (*tashkhis/ jama*), and (b) actual collection (*hasil*).

Assessment was made to fix the state demand. On the basis of this demand, actual collection was done separately for *kharif* and *rabi* crops.

10.5.1 Methods of Land Revenue Assessment

Under the Mughals assessment was separately made for *kharif* and *rabi* crops. After the assessment was over a written document called *patta*, *qaul* or *qaul-qarar* was issued in which the amount or the rate of the revenue demand was mentioned. The assessee was in return supposed to give *qabuliyat* i.e. 'the "acceptance" of the obligation imposed upon him, stating when and how he would make the payments'.

We will discuss here a few commonly used methods:

1) *Ghalla Bakhshi* (crop-sharing): In some areas it was called *bhaoli* and *batai*. The *Ain-i Akbari* notes three types of crop-sharing:

   a) Division of crop at the threshing floor after the grain was obtained. This was done in the presence of both the parties in accordance with agreement.

   b) *Khet batai*: The share was decided when the crop was still standing in the fields, and a division of the field was marked.

   c) *Lang batai*: The crop was cut and stacked in heaps without separating grain and a division of crop in this form was made.

   In Malikzada's *Nigarnama-i Munshi* (late 17th century) crop sharing has been mentioned as the best method of revenue assessment and collection. Under this method, the peasants and the state shared the risks of the seasons equally. But as Abul Fazl says it was expensive from the viewpoint of the state since the latter had to employ a large number of watchmen, else there were chances of misappropriation before harvesting. When Aurangzeb introduced it in the Deccan, the cost of revenue collection doubled simply from the necessity of organising a watch on the crops.

2) *Kankut/Danabandi*: The word *kankut* is derived from the words *kan* and *kut*. *Kan* denotes grain while *kut* means to estimate or appraisal. Similarly, *dana* means grain while *bandi* is fixing or determining anything. It was a system where the grain yield (or productivity) was estimated. In *kankut*, at first, the field was measured either by means of a rope or by pacing.

   After this, the per bight productivity from good, middling and bad lands was estimated and the revenue demand was fixed accordingly.

3) *Zabti:* In Mughal India, it was the most important method of assessment. The origin of this practice is traced to Sher Shah. During Akbar's reign, the system was revised a number of times before it took the final shape.

Sher Shah had established a *rai*‘ or per *bigha* yield for lands which were under continuous cultivation (*polaj*), or those land which very rarely allowed to lie fallow (*parauti*). The *rai*‘ was based on three rates, representing good, middling and low yields and one third of the sum of these was appropriated as land revenue. Akbar adopted Sher Shah's *rai*‘. Akbar introduced his so-called *karori* experiment and appointed *karoris* all over North India in 1574-75. The entire *jagir* land was converted into *khalisa*. On the basis of the information provided by the *karoris* regarding the actual produce, local prices, productivity, etc. in 1580, Akbar instituted a new system *ain dahsala*, where the average produce, of different crops as well as the average prices prevailing over the last ten years (15-24 R.Y. of Akbar) were calculated. One-third of the average produce was the state's minimum share. Under *karori* experiment, measurement of all provinces took place. Bamboo rods with iron rings called *tanab* were used instead of hempen ropes. On the basis of productivity and prices prevailing in different regions they were divided for revenue purposes into *dastur* circles. The rates of assessment in cash for each crop in every *dastur* was decided, and the demand was fixed accordingly. The main features of the *zabti* system as it finally came into operation under Akbar were:

i) measurement of land was essential;

ii) fixed cash revenue rates known as *dastur-ul amal* or *dastur* for each crop.

iii) all the collection was made in cash.

From an administrative point of view, *zabti* system had some merits:

i) measurement could always be rechecked;

ii) due to fixed *dasturs*, local officials could not use their discretion; and

iii) with fixing the permanent *dasturs*, the uncertainties and fluctuation in levying the land revenue demand were greatly reduced.

There were some limitations of this system also:

i) It could not be applied if the quality of the soil was not uniform;

ii) If the yield was uncertain, this method was disadvantageous to peasants because risks were borne by them alone. Abul Fazl says, "if the peasant does not have the strength to bear *zabt*, the practice of taking a third of the crop as revenue is followed".

iii) This was an expensive method as a cess of one *dam* per *bigha* known as *zabitana* was given to meet the costs towards the maintenance of the measuring party; and

iv) Much fraud could be practised in recording the measurement.

Zabti system was adopted only in the core regions of the Empire. The main provinces covered under *zabti* were Delhi, Allahabad, Awadh, Agra, Lahore and Multan. Even in these *zabti* provinces, other methods of assessment were also practiced, depending on the circumstances of the area.

Nasaq was not an independent method of assessment; it was subordinate to other methods. It was a method or procedure which could be adopted whatever be the basic method of revenue assessment and collection that was in force. In North India it was *nasaqi zabti*, while in Kashmir it was *nasaqi ghalla bakhshi*. When it was applied under *zabti* the annual measurement was dispensed with and previous figures were taken into account with certain variations. Since *zabti* system involved annual measurement, the administration and revenue payers both wanted to replace it. *Zabti-i harsala* or annual measurement was, therefore, set aside with some modifications.

Revenue Farming (*Ijara*)

Ijara system or revenue farming was another feature of the revenue system of this time. Though, as a rule Mughals disapproved of this practice, in actual fact certain villages were sometimes farmed out. Generally, these villages, where peasant did not have resources available for undertaking cultivation or where owing to some calamity cultivation could not be done, were farmed out on *ijara*. The revenue officials or their relatives were not supposed to take land on *ijara*. It was expected that revenue farmers would not extract more than the stipulated land revenue from the peasants. But this was hardly the case in actual practice.

The practice of *ijara*, it seems, could not have been very common in the *zabti* provinces, Gujarat and the Mughal Dakhin. In the *khalisa* lands also this practice was very rare. However, in the *jagir* lands it became a common feature. Revenue assignees (*jagirdars*) farmed out their assignments in lieu of a lump sum payment, generally to the highest bidders.

Sometimes, *jagirdars* sub-assigned part of their *jagirs* to his subordinates/ troopers. During the 18th century *ijara* system became a common form of revenue assessment and collection.

10.5.2 Magnitude of Land Revenue Demand

Let us first examine what share of the produce was taken by the state as land revenue. Abul Fazl says that no moral limits could be set for the demand of the ruler from his subjects; 'the subject ought to be thankful even if he were made to part with all his possessions by the protector of his life and honour'. He adds further that "just sovereigns" do not exact more than what is required for their purposes which, of course, they would themselves determine.

Aurangzeb explicitly said that the land revenue should be appropriated according to *Shariat*, i.e., not more than one half of the total produce.

European traveller Pelsaert, who visited India in the early 17th century, declared that 'so much is wrung from the peasants that even dry bread is scarcely left to fill their stomachs'. Irfan Habib comments: 'Revenue demand accompanied by other taxes and regular and irregular exactions of officials was a heavy burden on peasantry'.

Sher Shah formed three crop rates on the basis of the productivity of the soil, and demand was fixed at 1/3 of the average of these three rates for each crop. Abul Fazl comments that under Akbar, Sher Shah's 1/3 of revenue demand formed the lowest rate of assessement. Recent studies show that revenue demand under the Mughals ranged between 1/3 to 1/2 of the produce, and sometimes even 3/4 in some areas. On close scrutiny we find that the revenue demand varied from *suba* (province) to *suba*. In Kashmir, the demand in theory was one-third while in practice it was two-thirds of the total produce. Akbar ordered that only one-half should be demanded.

In the province of Thatta (Sind), the land revenue was taken at the rate of one-third. Yusuf Mirak, the author of *Mazhar-i Shahjahani* (a memoir on the administration of Sind written in 1634), explains that the Tarkhans who held Thatta in *jagir* when the *Ain-i Akbari* was written, did not take more than half of the produce from the peasantry and also in some cases they took one-third or a fourth part of the total produce.

For Ajmer *suba*, we find different rates of revenue demand. In fertile regions of eastern Rajasthan ranged from one-third to one-half of the produce. Irfan Habib on the basis of the *Ain-i Akbari* says that in the desert regions, proportion amounted to one-seventh or even one-eighth of the crop. But Sunita Budhwar Zaidi points out that there is no evidence in other sources of such low rates from any locality of Rajasthan. Even in Jaisalmer, one-fifth of the produce was collected from the *rabi* and one-fourth from the *kharif* crop.

In Central India, rates varied from one-half, one-third to two-fifths. In Deccan, one-half was appropriated from the ordinary lands while one-third was taken from those irrigated by wells and one-fourth was taken from high grade crops.

Aurangzeb's *farman* to Rasik Das Karori stipulates that when the authorities took recourse to crop-sharing, usually in the case of distressed peasantry, the proportions levied should be one-half, or one-third or two-fifths. Rates under Aurangzeb were higher than that of Akbar. Perhaps it was due to the fact that there was a general rise in agricultural prices and, thus, there was no real change in the pitch of demand.

In the case of Rajasthan it is reported that revenue rates varied according to the class or caste of the revenue payers. S.P. Gupta, Satish Chandra and Dilbagh Singh have shown that Brahmins and Banias paid revenue on concessional rates in a certain *pargana* of Eastern Rajasthan.

It may be safely assumed that in general the rate of revenue demand was from 1/2 to 1/3 of the produce. Since, the revenue was imposed per unit of area 'uniformly' irrespective of the nature of the holding, it was regressive in nature – those who possessed large holdings felt the burden less than those who possessed small holdings.

Check Your Progress-4

1) Define the following:

Ghalla Bakhshi .....

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Kankut .....

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Polaj .....

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Rai' .....

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2) Enumerate merits and demerits of the *zabti* system.

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3) Discuss the pattern of revenue demand in Mughal India.

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10.5.3 Mode of Payment

The practice of collecting land revenue in cash was in use in some regions even as early as the 13th century. In the Mughal period, the peasant under *zabti* system had to pay revenue in cash. No provision is on record for allowing a commutation of cash into kind in any circumstances. However, under crop-sharing and *kankut*, commutation into cash was permitted at market prices. Cash nexus was firmly established in almost every part of the Empire.

10.5.4 Collection of Land Revenue

Under *ghalla bakhshi*, the state's share was seized directly from the field. In other systems, the state collected its share at the time of harvest.

Abul Fazl maintains that, 'Collection should begin for *rabi* from Holi and for *kharif* from Dashehra. The officials should not delay it for another crop'.

In the *kharif* season, the harvesting of different crops was done at different times and the revenue was accordingly to be collected in three stages depending on the type of crops. Thus, under *kharif* the revenue could only be collected in instalments.

The *rabi* harvest was all gathered within a very short period. The authorities tried to collect revenue before the harvest was cut and removed from the fields. By the end of the 17th century, the authorities in desperation started preventing the peasants from reaping their fields until they had paid their revenue. Irfan Habib comments: 'It shows how oppressive it was to demand the revenue from the peasant before the harvest, when he would have absolutely nothing left. The practice was at the same time the work of a well-developed money economy, for it would have been impossible to attempt it unless the officials expected that the peasants would pay up by pledging their crops beforehand to grain merchants or moneylenders'.

Usually, the revenue was deposited in the treasury through the 'amil or revenue collector. Akbar encouraged the peasants to pay directly, Todar Mal recommended that the peasants of trusted villages, within the time limit, could deposit their revenue in the treasury themselves and could obtain receipt. The village accountant, *patwari*, made endorsement in his register to establish the amount paid. Irfan Habib considers these regulations as precautionary measures on the part of administration to avoid fraud and embezzlement.

10.6 RELIEF MEASURES

Abbas Khan in the *Tarikh-i Sher Shahi* writes, 'Sher Shah declared that concessions could be permitted at assessment time, but never at that of collection'. Aurangzeb in his *farman* to Muhammad Hashim Karori, instructed that no remissions were to be allowed once the crop had been cut.

Whatever be the method of revenue assessment, there was some provision for relief in the case of bad harvests. We have already seen that in *ghalla bakhshi* and *kankut*, state's share would rise and fall depending upon the current harvest. In *zabti*, relief was given by excluding the area designated *nabud* from assessment.

In practice, it was not possible to collect the entire amount, and there was always a balance which was to be collected next year. It also seems to have been a common practice to demand the arrears, owed by peasants who had fled or died, from their neighbours. Aurangzeb issued a *hasb-ul hukm* in CE 1674-75 to check this practice in *khalisa* and *jagir* lands, arguing that no peasant could be held responsible for arrears contracted by others.

Taqavi (strength giving) loans were granted to enable the peasants to buy seeds and cattle. Abul Fazl writes, 'the *amalguzar* should assist the empty handed peasants by advancing them loans'. Todar Mal had suggested that *taqavi* should be given to cultivators who were in distressed circumstances and did not have seeds or cattle. These loans were interest-free, normally to be repaid at the time of harvest. These were advanced through the *chaudhris* and *muqaddams*. Abul Fazl says that the loans should be recovered slowly.

New wells were dug up and old ones were repaired for extension and improvement of cultivation.

Check Your Progress-5

1) What was the medium of payment of land revenue?

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2) What were the forms of relief given to the peasants at the time of natural calamity?

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10.7 LAND REVENUE ADMINISTRATION OF THE MUGHALS

We get ample information about the revenue machinery for *khalisa* lands. But our information for *jagir* administration is quite scanty. Since *jagirdars* were transferred after every two or three years, they had no knowledge of revenue paying capacity of the people and local customs. They had to depend upon local officials for information. So we find three types of officials:

a) officials and agents of *jagirdars*,

b) permanent local officials many of whom were hereditary. They were generally not affected by the frequent transfers of the *jagirdars*, and

c) imperial officials to help and control the *jagirdars*

At the rural level, there were many revenue officials:

i) ***Karori:*** In 1574-75, the office of *karori* was created. Describing his duties, Abul Fazl says that he was incharge of both assessment and collection of the revenue. An important change took place during Shah Jahan's reign. Now *amins* were appointed in every *mahal* and they were given the work of assessment. After this change, *karori* (or *amil*) remained concerned chiefly with collection of revenue which *amin* had assessed.

The *karori* was appointed by the *diwan* of the province. He was expected to look after the interests of the peasantry. The accounts of the actual collection of the *karoris* and their agents were audited with the help of the village *patwari's* papers.

ii) ***Amin:*** The next important revenue official was *amin*. As we have already mentioned, that the office of *amin* was created during Shah Jahan's reign. His main function was to assess the revenue. He, too, was appointed by the *diwan*. He was responsible jointly with the *karori* and *faujdar* for the safe transit of the collected revenue. The *faujdar* of the province kept a vigilant eye on the activities of *amin* and *karori*. He also used to recommend their promotion.

ii) ***Qanungo:*** He was the local revenue official of the *pargana*, and generally belonged to one of the accountant castes. It was a hereditary post, but an imperial order was essential for the nomination of each new person.

Nigarnama-i Munshi holds *qanungos* responsible for malpractices because 'they have no fear of being transferred or deposed'. But a *qanungo* could be removed by an imperial order if he indulged in malpractices, or on account of negligence of duty. He was supposed to maintain records concerning revenue receipts, area statistics, local revenue rates and practices and customs of the *pargana*. It was generally believed that if a *qanungo* was asked to produce the revenue records for the previous hundred years, he should be able to do so.

The *jagirdar's* agents were generally unfamiliar with the locality; they usually depended heavily on the information supplied to them by the *qanungos*.

The *qanungo* was paid 1% of the total revenue as remuneration, but Akbar started paying them salary.

iv) ***Chaudhuri:*** He was also an important revenue official like the *qanungo*. In most cases he was the leading *zamindar* of the locality. He was mainly concerned with the collection. He also stood surety for the lesser *zamindar*s.

The chaudhuri distributed and stood surety for the repayment of the *taqavi* loans. He was a countercheck on *qanungo*.

From *Dastur-ul Amal-i Alamgiri* it appears that the allowance to the *chaudhuri* was not very substantial. But it is possible that he held extensive revenue free (*inam*) lands.

v) ***Shiqqdar:*** Under Sher Shah, he was the incharge of revenue collection and maintained law and order. In Akbar's later period, he seems to be a subordinate official under the *karori*. Abul Fazl mentions that in case of an emergency, the *shiqqdar* could give the necessary sanction for disbursement which was to be duly reported to the court. He was also responsible for thefts that occurred in his jurisdiction.

vi) ***Muqaddam and Patwari:*** The *muqaddam* and *patwari* were village level officials. The former was the village headman. In lieu of his services, he was allowed 2.5 per cent of the total revenue collected by him.

The *patwari* was to maintain records of the village land, the holdings of the individual cultivators, variety of crops grown and details about fallow land. The names of the cultivators were entered in his *bahi* (ledger). On the basis of information contained in these *bahis*, the *bitikchi* used to prepare necessary papers and records according to which assessment and collection was carried out.

In each *pargana*, there were two other officials – the *fotadar* or *khazandar* (the treasurer), and *karkun* or *bitikchi* (the accountant). Under Sher Shah, there were two *karkuns*, one for keeping the records in Hindi and the other in Persian. But in CE 1583-84 Persian was made the sole language for accounts.

The *faujdar* represented the military or police power of the imperial government. One of his main duties was to help the *jagirdar* or *amil* in collecting revenue from the ***zortalab*** (refractory) *zamindar*s and peasants.

There were *waqai navis*, *sawanih nigar* (news writers), etc., whose duty was to report the cases of irregularities and oppression to the centre.

Check Your Progress-6

1) Describe the duties and functions of a *karori*.

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2) Define the following:

i) *Zortalab Zamindars* .....

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ii) *Fotadar* .....

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iii) *Waqai Navis* .....

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10.8 CURRENCY SYSTEM OF THE DELHI SULTANS

The establishment of the Delhi Sultanate was marked by a considerable growth of money economy which accelerated particularly in the first half of the 14th century. Since the growth of money economy in simple words means larger use of currency in transactions (monetisation is another term for this phenomenon), a large scale minting of gold, silver and copper coins that followed the foundation of the Delhi Sultanate was an attendant process of the monetization of Indian economy.

The period prior to the foundation of the Delhi Sultanate was marked by the scarcity of coinage particularly of pure silver. The early Ghorid conquerors found mints uttering coins of copper with very small silver contents. Except an increase in the number of coins stamped, no changes were introduced in the beginning. The coins continued to bear the image of goddess Lakshmi or bull-and-horseman, etc. Only the name of the new ruler in a corrupt form got inscribed over it in Nagari script. These coins were called Dehliwal.

Iltutmish (1210-36) is credited for standardizing the coinage of the Delhi Sultanate. The currency system established by him in its essentials survived the Delhi Sultanate. He introduced gold and silver *tankas* and a copper *jital* that was reckoned at l/48th of a *tanka* in North India and l/50th in the Deccan after the conquest of Devagiri.

A firm ratio of 1:10 between gold and silver appears to have been established.

For studying the currency system we not only have the testimony of the chronicles but also the physical evidence available in the form of surviving coins (this is called numismatic evidence).

The Sultanate mints generally uttered coins in three metals: gold, silver and billon (copper mixed with very small quantity of silver). The main coins were *tanka* and *jital* but some smaller currencies were also in circulation. Barani mentions *dangs* and *dirams* in use at the capital Delhi. The equation between these currencies in the north has been worked out as:

1 silver *tanka* = 48 *jital* = 192 *dangs* = 480 *dirams*

The gold and silver remitted from Bengal was the main source of coinage during the 13th century. The seizure of treasure hoards in northern India and later in the Deccan was the other major source of silver and gold for coinage.

The Sultanate mints should not only have coined government money but also stamped bullion and foreign coins brought by the private merchants.

The silver currency remained dominant till the reign of Alauddin Khalji. From Ghiyasuddin Tughlaq's reign, a decline in silver coinage in relation to gold and billon set in. Under Muhammad Tughlaq gold coinage overshadowed the silver, and silver coinage practically disappeared under Firuz Tughlaq. In the 15th century, billon coinage dominated (the Lodis [1451-1526] uttered no other coins).

Token Currency of Muhammad Tughlaq

The only major innovation in the currency system established by Iltutmish was made by Muhammad Tughlaq. The Sultan introduced a coin of copper and brass alloy and reckoned it at the value of a silver *tanka*. This coin for the first time carried an inscription in Persian. This new currency whose face value was much higher than its intrinsic value (that is, value of the metal it was made of) is termed as token currency. The introduction of token currency was already attempted in sister Asian empires. In China, Qublai Khan (1260-94) had introduced a token currency of paper and the experiment was successful. In Persia, Kaikhatu Khan (1293), too, tried to introduce a token currency but the attempt failed.

Muhammad Tughlaq's experiment, too, met total failure perhaps owing to the fact that the new currency could easily be forged. Barani says rhetorically that every 'Hindu' household became a mint. However, the Sultan accepted the failure with grace and exchanged all the token currency brought to the treasury with pure currency.

Check Your Progress-7

1) Discuss the introduction of 'token currency'.

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2) Mark (✓) against the statement if it is true and (×) if false.

a) Alauddin Khalji established the currency system of the Sultanate. ( )

b) One silver *tanka* was equal to 48 *jitals* in North India. ( )

c) The main source of silver for coinage in the Deccan were the treasure hoards of the local rulers. ( )

d) Silver coins in Firuz Tughlaq's reign outnumbered gold coins. ( )

10.9 CURRENCY SYSTEM OF THE MUGHALS

Under the Mughals, the currency system was very well organised. A high level of purity of metals was also achieved.

10.9.1 The Coinage

The Mughal currency system may be termed as trimetallic. Coins were of three metals, viz, copper, silver and gold. However, the silver coin was the base of the currency.

The silver coin has a long pre-Mughal history. It was used during Delhi Sultanate for long as *tanka*. Sher Shah for the first time standardized the silver coin. It was called *rupaya* and had a weight of 178 grains (troy; troy weight is a British system of weights used for gold, silver and jewels in which 1 pound = 12 ounces = 5760 grains). For minting purposes, an alloy was added which was kept below 4 per cent of the weight of the coin. Akbar continued the *rupaya* as the basic currency with more or less the same weight. Under Aurangzeb the weight of the *rupaya* was increased to 180 grains (troy). The silver *rupaya* was the main coin used for business and revenue transactions.

The Mughals issued a gold coin called *ashrafi* or *muhr*. It weighed 169 grains (troy). This coin was not commonly used in commercial transactions. It was mainly used for hoarding purposes and also for giving in gift.

The most common coin used for small transactions was the copper *dam* which weighed around 323 grains. The weight of the copper *dam* was reduced by one third during Aurangzeb's reign presumably because of the shortage of copper.

Further, for very petty transactions *kauris* (sea-shells) were used in coastal areas. These were brought mainly from the Maldive islands. Around 2500 *kauris* equalled a *rupaya*.

Apart from the silver *rupaya* other types of coins were also used. The most important of these were *mahmudis*, a long standing silver coin of Gujarat. Even after the establishment of the Mughal rule in Gujarat it continued to be minted and used in Gujarat for commercial transaction.

In the Vijaynagar Empire, a gold coin called *hun* or *pagoda* was used. After the disintegration of Vijaynagar, its circulation continued in the kingdoms of Bijapur and Golconda. In many Deccan kingdoms, an alloy of copper and silver called *tanka* was in use. After the expansion of the Mughals in the Deccan a number of mints were established in that region to produce Mughal silver coins.

Exchange Value of Coins

The exchange value of gold, silver and copper coins kept fluctuating depending on the supply of these metals in the market. The silver value of gold kept fluctuating throughout the Mughal period, ranging from 10 to 14 *rupaya* for one gold coin.

As for copper coin, taking 1595 as the base year, Irfan Habib shows that by the early 1660s it rose to 2.5 times, but by 1700 it came down to the double and again by 1750 it reached the level of the 1660s.

For transaction purposes during Akbar's period, 40 copper *dams* were considered equal to one *rupaya*. After his death, as the rate of copper appreciated sharply, this ratio could not be maintained. Since all the land revenue assessment and calculations were done in *dams*, it became necessary to use it as notional fractional units of *rupaya*. Silver coins of small fractions called *ana* were also used. It was one-sixteenth of a *rupee*.

In the above account, we have not gone into the details of the complexities and the debates among historians about the Mughal currency system. We have only tried to present before you in a simplified manner the basic features of Mughal coinage.

10.9.2 The Minting System

The Mughals had a free coinage system. One could take bullion to the mint and get it coined. The state had the sole authority to issue coins and no other person could issue them. A very strict standardization was follwed to maintain the purity of coins.

A large number of mints were established throughout the Empire. Attempts were made to have these mints in big towns and ports so that the imported bullion could be taken to mints easily. Every coin carried the name of the issuing mint, and the year of minting and ruler's name.

The newly minted coin in the current or previous year was called *taza sikka* (newly minted). The coins issued and in circulation in the reign of an emperor were called *chalani* (current). While the coins minted in the earlier reigns were called *khazana*. Except for the *taza* all other coins were subjected to reduction in value.

A certain amount was deducted on the value of the coin for successive years from the year of issue. If a coin was for more than one year in circulation around 3 per cent was deducted; if it was for more than 2 years then 5 per cent was to be reduced.

Apart from the factor of age, a deduction in the value was made on account of the loss of weight of coin. Abul Fazl says that if the loss of the weight was less than one *rati* it was to be overlooked and the coin was treated as standard. If the loss of weight was between 1 and 2 *ratis*, a deduction of two and a half per cent was made; and if it exceeded 2 *ratis* the coin was treated as bullion.

The above stated deductions were decided by the state, but in actual practice arbitrary deductions were decided by *sarrafs* (money changers) depending on the market.

Working of Mints

Any person desirous of getting money minted was to carry bullion or old currency for reminting to a mint. The quality and purity of the metal was scrutinized. The currency was minted and delivered to the concerned person. A specific sum was charged as minting charges. This amounted to around 5.6% of the bullion minted.

In the process of minting a large number of personnel and craftsmen were involved.

A mint was headed by an officer called *darogha-i darul zarb*. The duties of this officer were to supervise the overall working of the mint. He was assisted by a number of officials, skilled artisans and workmen. The *sarraf* was employed by the mint as assessor. He was to judge the purity, weight and age of the coin and fix deductions on their value. The *mushrif* was to maintain accounts. The *tahvildar* kept accounts of daily profit and kept coins and bullion in safe custody. The *muhr kan* (engraver) was a person who engraved and made dies. The *wazan kash* (weightman) weighed the coins. There were many artisans like the *zarrab* (coin maker), *sikkachi* (stamper), etc.

It is difficult to estimate the output of mints because it depended on the size of the mint and the commercial activities of the area where the mint operated. By the close of the 17th century, the output of Surat mint was estimated around 30,000 *rupaya* per day. Aziza Hasan studied the pattern of the issue of coins in 16th and 17th century. According to her estimates in 1639 the total *rupees* in circulation were three times than that of 1591. After 1639 there is a decline and by 1684 the total was double of 1591. After 1684 there is an ascent again and by 1700 the total coins in circulation were three times than those of 1591.

Location of Mints

Abul Fazl gives a list of mints in the *Ain-i Akbari*. According to him, copper coins were issued by forty-two mints, silver coins by fourteen and gold coins by four mints. The number of mints issuing silver coins increased by the end of the 17th century to forty.

M.P. Singh has compiled a detailed list of mints on the basis of a large number of numismatic sources. According to him, a large number of mints which figure on coins do not find a mention in either the *A'in* or other literary sources. We reproduce below the list prepared by him.

Reign	No. of mints coining gold, silver and copper	No. of mints coining gold only	No. of mints coining gold and silver	No. of mints coining gold and copper	No. of mints coining silver only	No. of mints coining silver and copper	No. of mints coining copper only	Total
Akbar	13	4	3	1	14	14	35	84
Jahangir	6	2	7	-	11	3	3	32
Shahjahan	10	1	12	-	13	-	5	41
Aurangzeb	18	1	24	-	36	3	3	85

Source: M.P. Singh, *Town Market, Mint and Port in the Mughal Empire*, 1985, Delhi, p. 173.

At times, mints accompanied the Imperial camps also that issued coins en route.

Check Your Progress-8

1) Write briefly on the nature of Mughal currency system.

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2) Write a note on the system of minting under the Mughals.

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10.10 SUMMARY

In this Unit, you have studied the impact of the Delhi Sultanate on Indian economy. We have traced how gradually the previously existing systems of revenue collection and distribution changed, cash nexus grew, and pure silver currency was introduced.

The land revenue was the main source of the state's income. The British administrators regarded it as rent of the soil, and thought that the owner of the land was the king, but subsequent studies have shown that it was a tax on the crop rather than on land.

The salient features of the Mughal land revenue system may be summarised as follows:

a) The magnitute of land-revenue demand varied from region to region,

b) A number of methods were used to assess the land revenue demand. Though *zabti* was the most important method of revenue assessment, other methods, like *ghalla bakhshi*, and *kankut* were also prevalent,

c) The special feature was that in most cases (at least in the *zabti* provinces), revenue was realized in cash, thereby giving impetus to monetization and market economy,

d) Relief was provided at the time of natural calamity. The state used to give concessions in the form of *nabud*, and advanced loans called *taqavi*, and

e) A large number of officials were associated with the administration of land revenue. Some of the important functionaries were *karori*, *amin*, *qanungo*, *chaudhuri*, *shiqqdar*, *fotadar*, *bitikchi*, *diwan*, *faujdar*, *waqai navis*, etc.

We have also studied the nature of currency system under the Delhi Sultans and the Mughals. The Mughal currency was trimetallic i.e., gold, silver and copper. The Mughal coinage was free and it was open to everybody to take the bullion to the mint. A large network of mints was established throughout the Empire. A high degree of purity and standardization was followed.

10.11 KEYWORDS

Bahi	Record book
Fawazil	Surplus amount
Mahsul	Estimated revenue
Maurusi	Hereditary
Ummal	Plural of amil (revenue collector)
Zortalab	Refractory

10.12 ANSWERS TO CHECK YOUR PROGRESS EXERCISES

Check Your Progress-1

1) See Sub-section 10.3.1

2) a) ✓ b) × c) ×

Check Your Progress-2

1) See Sub-section 10.3.3

2) a) See Sub-section 10.3.3

   b) See Sub-section 10.3.3

Check Your Progress-3

1) See Section 10.4

2) See Section 10.4

Check Your Progress-4

1) See Sub-Section 10.5.1

2) See Sub-Section 10.5.1 At first-define *zabti* system. Trace its origin and then discuss its merits and demerits.

3) See Sub-Section 10.5.2 Analyse that in Mughal India revenue demand was not uniformly imposed. Discuss how it varied from region to region.

Check Your Progress-5

1) See Sub-Section 10.5.3

2) See Section 10.6 Write the nature of the relief measures. What type of loans were given? What was taqavi loan; why it was given and on what condition? Who were the officials involved in the distribution of these loans, etc.

Check Your Progress-6

1) See Section 10.7 Analyse why Akbar created the office of *karori*? What powers were entrusted upon him at that time. What changes were made during the succeeding reigns in his powers and functions.

2) See Section 10.7

Check Your Progress-7

1) See Section 10.8

2) a) × b) ✓ c) ✓ d) ×

Check Your Progress-8

1) See Sub-Section 10.9.1

2) See Sub-Section 10.9.2

10.13 SUGGESTED READINGS

Fukazawa, H., (1991) *The Medieval Deccan: Peasants, Social Systems and States, 16 to 18 Century* (Delhi: Oxford University Press).

Habib, Irfan, (1990; Revised) *Agrarian System of Mughal India 1556-1707* (Delhi: Oxford University Press).

Habib, Irfan, (2016) *Economic History of India AD 1206-1526* (Delhi: Tulika Books).

Raychaudhuri, Tapan and Irfan Habib, (1982) *The Cambridge Economic History of India,* Vol. I (Delhi: Cambridge University Press).

10.14 INSTRUCTIONAL VIDEO RECOMMENDATIONS

Market Regulations and Indian Ocean Trade during the Delhi Sultanate
https://www.youtube.com/watch?v=vD8I-Lb5Dps

Agriculture and Rural Revenue System during the Delhi Sultanate
https://www.youtube.com/watch?v=e8CxNH1NGBk

Discourse on Mughal Economy
https://www.youtube.com/watch?v=FOZaH2L6b0I

Economic History of Mughal India
https://www.youtube.com/watch?v=XM3Afvx-nag

UNIT 11 RURAL SOCIETY*

Structure

11.0 OBJECTIVES

In this Unit, we will discuss the agrarian economy under the Delhi Sultans and the Mughals. We will also try to gauge in what ways the establishment of the Delhi Sultanate affected the agricultural production and agrarian relations. After going through this Unit, you should be able to learn about:

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This Unit is taken from our earlier Course EHI-03: *India: From 8th to 15th Century*, Block 6, Units 19 and 20; and EHI-04: *India from 16th to Mid-18th Century*, Block 5, Unit 17 and Block 6, Unit 21.

- the extent of cultivation, the crops grown by the peasant, canal irrigation and its impact under the Delhi Sultans,
- the agrarian relations, the changes in the position of the previous rural structure and the subordinate rural aristocracy during the Sultanate period,
- the extent of cultivation under the Mughals,
- know about the means and methods of cultivation and irrigation under the Mughals,
- to list the main crops grown under the Mughals,
- have some idea about the status of livestock and cattle breeding under the Mughals,
- the various classes who appropriated a share in the produce of the land,
- the *zamindars* and their rights,
- various categories of peasants and the village community,
- other intermediaries who enjoyed a share in the surplus produce, and
- the relations between various agrarian classes.

11.1 INTRODUCTION

It will of course be unreasonable to expect that the establishment of the Delhi Sultanate would have effected any radical changes in the system of agricultural production, though the coming of certain new technologies seem to have helped irrigation and there was spread of some market crops such as indigo and grapes. However, it was the agrarian relations that underwent a significant change. According to D.D. Kosambi, these changes did no more than intensify the elements already present in Indian "feudalism", while Mohammad Habib regards these to be not only radical but so progressive in nature that to him these deserved the designation of "rural revolution".

India has a very large land area with diverse climatic zones. Throughout its history, agriculture has been its predominant productive activity. During the Mughal period, large tracts of land were under the plough. Contemporary Indian and foreign writers praise the fertility of Indian soil.

In this Unit, we will discuss many aspects including the extent of cultivation, that is the land under plough. A wide range of food crops, fruits, vegetables and **cash crops** were grown in India. However, we would take a stock only of the main crops grown during this period. We will also discuss the methods of cultivation as also the implements used for cultivation and irrigation technology. While focusing on the area under Mughal control, we will also include the areas lying outside it.

In this Unit we will discuss the rights of various classes to land and its produce. We will also discuss the interrelationship between these classes.

11.2 AGRICULTURAL PRODUCTION DURING THE DELHI SULTANATE

During the 13th-14th centuries, the land-man ratio was very favourable. The population of India around CE 1200 was obviously much less than what it was around 1800; though how much less we do not know. There is no statistical information but the accounts of the contemporaries clearly suggest that inhabited

area in the 13th-14th centuries was much smaller than at the close of the l6th century. Large tracts even in such fertile regions as the Ganga-Yamuna Doab were covered by forests and grass lands. The sufi Nizamuddin Auliya in the 13th century found wayfarers travelling between Delhi and Badaun harassed by tigers. In the I4th century, the forest in the region, according to Barani, was thick enough to provide refuge to vast number of peasants against the Sultan's armies. Even in Babur's time (1526-30), crossing from Central Indian forest, elephants used to roam in Kalpi and Yamuna ravines south of Kanpur. But before the close of Akbar's reign (1605) the middle Doab was reported to be fully cultivated. This clearly suggests that, during the Delhi Sultanate, there was abundance of cultivable land that was yet to be brought under plough.

The control over bits of land was, therefore, not as important as on persons cultivating them. We will discuss the implications of this for agrarian relations at the proper place. However, the land-man ratio is also crucial for understanding the nature of agriculture. A favourable ratio of land to man naturally implies agriculture to be extensive. In simple terms, extensive agriculture is that where the increase in production is attempted by bringing more area under crop. On the other hand, agriculture is called intensive if the production is sought to be increased on the same tract by using higher agricultural inputs: for example, more labour, better ploughing and irrigation. Owing to abundance of cultivable land in the Delhi Sultanate, agriculture was extensive in nature. The large area of cultivable waste and fallows naturally provided good pasturage facility for cattle. The author of the *Masalik al-Absar* records that in India cattle were innumerable and their prices were low. Afif reports that no village in Doab was without a cattle-pen which were called ***kharaks***. Bullocks were so plentiful that the pack-animals and not the bullock-carts were the main means of carrying grains and other goods.

11.2.1 Crops and other Agricultural Produce

One of the most remarkable feature of the agriculture of the time was the large number of crops grown by the peasants of the Delhi Sultanate. This has perhaps no parallel in other parts of the world except perhaps in South China. Ibn Battuta was struck by the multiplicity of crops grown and described in sufficient detail the various crops grown in the two cropping seasons. He also suggests that in the region around Delhi double cropping was also practised, that is, on the same soil both the ***kharif*** and the ***rabi*** crops were raised. Thakkur Pheru, the mint-master at Delhi under Alauddin Khalji, writing in *c*. 1290 lists some twenty-five crops grown under two harvests and gives also their yields. While the yields cannot be comprehended owing to the uncertainty of the units used, one gets a fairly good idea of the crops raised. Among food crops, he mentions, wheat, barley, paddy, millets – juar, moth, etc. and pulses (mash, mung lentils, etc.). For cash crops, sugarcane, cotton, oil-seeds, sesamum, linseed, etc. are referred to.

One may perhaps legitimately assume that improved facilities of irrigation would have helped extend the area under *rabi* (winter) crops such as wheat, sugarcane, etc. With the 'Islamic raiders' making of wine from sugarcane became widespread and a new rural industry emerged at least around Delhi and in the Doab by the 14th century as is evident from Barani's account. Thakkur Pheru surprisingly omits the dye-crop (indigo) though its production is testified to by the fact that indigo was already an important item of export to Persia. It is recorded that the Il Khanids tried to encourage indigo plantation in Persia to avoid dependence upon India for its supply. The probable use of lime-mortar in the indigo-vats by providing an improved surface should have helped the manufacture of dye.

From Ibn Battuta's account, we get information on fruit growing in the Delhi Sultanate. It appears that technique of 'grafting' was not known to peasants. Earlier grapes were grown only in the few places besides Delhi but Muhammad Tughlaq's urging to peasants to improve cropping by shifting from wheat to sugarcane to grapes and Firuz Tughlaq's laying down of 1200 orchards in the vicinity of Delhi to grow seven varieties of grapes seems to have made them so abundant that, according to Afif, the prices of grapes fell.

However, the Indian peasants did not practise sericulture (rearing of silk-worm) at that time and no true silk was produced. Only wild and semi-wild silks, namely, *tasar*, *eri* and *muga* were known. Ma Huan, the Chinese navigator in 1432, makes the first reference to sericulture in Bengal.

11.2.2 Canal Irrigation and Its Impact

Agriculture was generally dependent upon natural irrigation, that is, rains and floods. Since cultivation was largely based on natural irrigation, the tendency was to grow mostly single, rain-watered *kharif* (autumn) crop and coarse grains more.

Canal irrigation is described in our sources. The Delhi Sultans themselves got the canals cut for irrigation. Ghiyasuddin Tughlaq (1320-25) is reported to be the first Sultan to dig canals. But the cutting of canals in a much bigger way was undertaken by Firuz Tughlaq (1351-88). Firuz Tughlaq cut two canals, Rajabwah and Ulughkhani, from the river Yamuna carrying them to Hissar, one from the Kali river in the Doab joining the Yamuna near Delhi; one each from the Sutlej and the Ghaggar. Certainly, it was the biggest canal network in India till the 19th century.

Canal irrigation helped greatly in the extension of cultivation in the eastern Punjab. Now there was an emphasis on the cultivation of cash crops like sugarcane, etc. that required more water than other crops. Afif says that a long stretch of land of about 80 ***krohs/kurhos*** (200 miles) vast irrigated by the canal Rajabwah and Ulughkhani. According to Afif, as a result of abundance water available, peasants in the eastern Punjab raised two harvests (*kharif* and *rabi*) where only one was possible earlier. This led to new agricultural settlements along the banks of the canals. In the areas irrigated by the canals 52 such colonies sprang up. Afif comments enthusiastically, "neither one village remained desolate nor one cubit of land uncultivated".

Check Your Progress-1

1) What were the implications of the prevailing favourable land to man ratio during the Delhi Sultanate?

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2) Write a note on canal irrigation.

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3) Which of the following statements are correct or wrong? (Mark ✓ or ×)

   i) Muhammad Tughlaq built a number of canals for irrigation. ( )

   ii) Double cropping was practised during the Sultanate period in the Doab. ( )

   iii) Sericulture was practised by Indian peasants during the 13th-14th centuries. ( )

11.3 AGRARIAN RELATIONS IN THE 13th-14th CENTURIES

Crucial to any discussion of agrarian economy is, indeed, the nature and extent of change that resulted in the agrarian relations since the establishment of the Delhi Sultanate. This involves, first of all, an assessment of the pre-1200 agrarian structure. Without entering into the debate whether the prevailing socio-economic order deserves the appellation 'feudal' or not, we can perhaps say with some certainty, that on the eve of the Ghorid conquest, the ruling class was heavily ruralized like contemporary feudal aristocracy of Western Europe.

Minhaj Siraj designates the chiefs opposing the Ghorians and the early Delhi Sultans as *rai* and *rana* and their cavalry commanders as *rawat*. From the epigraphic evidence from different parts of Northern India, the earlier feudal hierarchy of *raja* (*rai*), *ranaka* (*rana*) and *rauta* (*rawat*) is fairly well established.

In the early phase, the Sultans tended to enter into settlement with this defeated and subjugated rural aristocracy. As discussed earlier, *kharaj* was largely the tribute imposed upon them. It seems that even after the replacement of this tribute by vigorously assessed tax imposed on the peasants under Alauddin Khalji, the older rural aristocracy had some role to play in revenue collection. This can be inferred from an incident of Alauddin Khalji's reign. Ghazi Malik, the governor of Dipalpur when wanted to pressurise Rana Mal Bhatti, according to Afif, one of the *rais* (*rajas*) of the region went to his territory and demanded the full year's revenue in cash at once; when the Rana failed to comply, Ghazi tortured the *muqaddams* (village headmen) and *chaudhuris*. The incident suggests that though the members of subjugated aristocracy, wherever present, were at least till the early years of the 14th century, held responsible for collecting and paying the land revenue. The administration, too, exercised the right to collect it directly through village headmen and *chaudhuris*.

11.3.1 Peasants

Cultivation was based on individual peasant farming. But this peasant economy was not at all egalitarian. The size of land cultivated by them greatly varied in size. From Barani's account it appears that at one extreme were the *khots* and *muqaddams* having large holdings and enjoying superior rights on ordinary peasants; and at the other was the *balahar*, the village menial holding a petty plot of land. Below the peasant, there must have been a mass of landless labourers but their presence could only be discerned from the later sources, since we did not find any mention in contemporary accounts.

In spite of the abundance of cultivable land, 'there was little question of the peasants claiming property right' over the land he tilled. On the contrary, even on his produce there were claims of the superior classes. The peasant though recognised a 'free born' at times was deprived of the freedom to leave the land at will or to change the domicile.

According to Afif a village had 200 to 300 male members and Barani says that each village had a *patwari* to keep accounts. His *bahi* (account register) was scrutinized to discover every payment, legal or illegal, made by the peasants to the revenue officials. The *patwari* was not a government official but a village official. He was certainly not a creation of the Delhi Sultanate. The presence of a village clerk for maintaining accounts may suggest that the village was an administrative unit outside the administrative system of the Sultanate.

It seems that the village was collectively a tax paying unit otherwise why a clerk to keep village accounts was needed. The presence of *patwari* and the nature of his duties thus indicate existence of village community. It seems that in spite of Alauddin Khalji's efforts to assess the tax on individual peasant, in practice the village continued to remain the unit of land revenue payment. Barani's complaints about the 'burden of the rich falling on the poor' further indicates that the village community was not an ideal institution but itself a machinery of exploitation.

11.3.2 Rural Intermediaries

Khots, *muqaddams* and *chaudhuris* together formed the rural aristocracy. They belonged to the highest stratum of the peasantry. From Barani's account it appears that before Alauddin Khalji's agrarian measures they held revenue free lands. As a class, the village headmen were prosperous. Barani with malacious pleasure records that Alauddin Khalji imposed full land revenue upon them and withdrew the exemption from house and grazing tax. He prohibited them from levying any cesses of their own and thus he levelled them to the ordinary peasants.

However, since these rural intermediaries were necessary for the system of land revenue realization, these stern measures against them were not to last longer. Ghiyasuddin Tughlaq introduced moderation. The exemption from grazing as well as tax on their own cultivation was granted again. But they were not allowed to impose any cess upon the peasantry. They received further concessions under Firuz Tughlaq and interestingly enough, these concessions and a resulting affluence are very approvingly described by Barani.

Among these rural intermediaries, the *chaudhuri* seems to have emerged during the 14th century. He is not mentioned by Minhaj or any other source of the 13th century. It is during the middle of the 14th century that he makes his appearance in Barani's account. Ibn Battuta defines him as the 'chief of a group of 100 villages'; he calls him *sadi*. However, the usual term from the middle of the 14th century for a group of villages is *pargana*. Irfan Habib suggests that the *chaudhuri* was in fact a successor, though much reduced in authority, of the head of the *chaurasi* (group of eighty four villages) of Gujara-Pratiharas and Chalukyas.

From the time of Firuz Tughlaq all these intermediaries were given a blanket designation – *zamindar* – a term coming much in vogue during the Mughal period.

11.3.3 Revenue Grantees

As you know already, the religious persons and institutions such as *dargahs*, mosques, *madrasas* and other dependents of the ruling class were maintained by making grants of revenue income. These revenue grants were called *milk*, *idrar*, and *inam*. These grants were not generally resumed or transferred. But the Sultan had the right to cancel them. Alauddin Khalji is reputed to have cancelled almost all grants. Ghiyasuddin Tughlaq too cancelled large number of grants. However, Firuz Tughlaq made a departure and not only returned all the previously resumed grants but also made new grants as well. In spite of this generosity of the Sultan, according to the figures recorded by Afif, the total grants by the Sultan accounted

only for about one-twentieth of the total ***jama*** (estimated revenue income). Nobles, too, made revenue grants out of their own *iqtas*. Noticeably, the Sultans made grants not only in the *khalisa* but also in the *iqtas*. These grants covered cultivated as well as cultivable areas not yet brought under plough.

Check Your Progress-2

1) Write briefly on each of the following:

   a) Village Community .....

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   b) *Chaudhuri* .....

   .....

   c) *Patwari* .....

   .....

2) Put (✓) against correct and (×) against incorrect statement given below:

   (a) During the Delhi Sultanate on peasant's produce there were no claims of the superior classes. ( )

   (b) The *patwari* was a village official who maintained an accounts book. ( )

   (c) The *balahar* was the village menial holding a petty plot of land. ( )

11.4 AGRICULTURAL PRODUCTION: MUGHAL INDIA

Under the Mughals you would notice to maximise the revenue resources of the empire there was phenomenal rise in the extent of cultivation; state dug up huge network of canals and a number of new crops of the New World (Americas) got introduced with the arrival of the Portuguese in India.

11.4.1 Extent of Cultivation

In the absence of relevant data, it is difficult to find out the exact area under the plough. Nevertheless, the available data helps us to have an idea about the cultivable land during Mughal period.

Abul Fazl in his *Ain-i Akbari* provides area figures for all the Mughal provinces in North India except Bengal, Thatta and Kashmir. In the case of most of the provinces, like Delhi, Agra, Awadh, Lahore, Multan, Allahabad and Ajmer, separate figures are provided for each *pargana* (with a few exceptions).

The figures of the *Ain-i Akbari* belong to the year *c.* 1595. The area figures for the 17th century for various regions are available in an accountancy manual of CE 1686. The same figures have been reproduced in a historical work *Chahar Gulshan* (1739-40). This manual provides measured area figures for each province; total number of villages in each province and a break-up of measured and unmeasured villages.

As stated earlier, the *Ain* provides area figures in most cases for each *pargana* but it is difficult to say to what extent the *pargana* was actually measured. The set of figures available from Aurangzeb's reign provide a better picture. These show that almost fifty per cent of the villages were not measured till CE 1686.

The figures for Aurangzeb's reign show that the measured area increased compared to the *Ain* (1595). But it is difficult to say that the total increase in the measured area was due to extension of cultivation. This may as well have been due to the inclusion of some of the earlier unmeasured area under measurement.

There is a debate among historians as to what these measurement figures actually represent. The questions raised are: whether these figures are for the area actually under crop, or cultivable land or the total measured area? W.H. Moreland was of the view that these figures represent the total cropped area.

Irfan Habib holds that it would have included cultivable area which was not sown and also area under habitation, lakes, tanks, parts of forests, etc. Shireen Moosvi agrees with Irfan Habib and has calculated this cultivable waste as ten per cent of the measured area. But she feels that even after deducting this ten per cent, the remaining area cannot be taken as net cropped area because large tracts of cultivated areas were not measured. She also thinks that many a times the land under *kharif* and *rabi* crops was measured separately and, after adding the two, it was recorded as measured area.

In such a situation, measurement figures of Mughal period alone are not of much help to ascertain the extent of cultivation. Irfan Habib and Shireen Moosvi have taken the help of other available data such as detailed figures of some areas available in some revenue papers, *jama* figures and ***dastur rates***. These have been compared with the figures of actually cultivated area in the beginning of 20th century.

According to their estimates the cultivated area between the end of the 16th century and the beginning of the 20th century almost doubled. The increase in Bihar, Awadh, and parts of Bengal is ascribed to the clearance of forest. In Punjab and Sind the spread of canal network also contributed to the extension in cultivation.

11.4.2 Means of Cultivation and Irrigation

The Indian peasant used a variety of implements and techniques for cultivation, depending on the nature of soil and need of the crops. Similarly, irrigation was done through various means in different regions.

Means and Methods of Cultivation

Tillage was performed by harnessing a pair of oxen to the plough. The latter was made of wood with an iron ***ploughshare***. Unlike in Europe neither horse nor bullock-drawn wheeled plough nor mould board were ever used in India. Regional variations, in a sprawling country like India, in the size and weight of ploughs must be expected – from a light plough that could be carried by the tiller upon his shoulders, to the heavy one meant for harder soil. Again, for soft soil, the iron ploughshare or coulter could have been dispensed with, more so as the price of iron was high. Many contemporary European travellers noted with surprise that Indian plough just turned the soil and that deep digging was not done, it seems that this suited to Indian conditions because deep digging would result in the loss of moisture in the soil. Moreover, it was only the upper layer which was more fertile.

A separate devise was used for breaking the clods or lumps of earth. This was done with the help of wooden boards called *patella* in parts of north India. Like plough this flat board was also harnessed to a pair of oxen. Generally a man would stand on the board to provide weight. The *patella* was dragged on the field by oxen.

The sowing of seeds was generally done through scattering by hand. In 16th century Barbosa also refers to the use of a sort of seed drill in the coastal region for sowing.

Efforts were made to increase the fertility of the soil through artificial means. In South India flocks of goat and sheep were widely used. Generally flocks of these cattle were made to spend a few nights in the agricultural field for their droppings were considered good manure. It was assumed that if a flock of 1000 spend five or six nights in one *kani* of land (1.32 acres) it was enough to keep land fertile for 6 to 7 years. (*Cambridge Economic History of India*, I: 231.) The same practice was commonly used in Northern India also. Fish manure also seems to have been used in coastal areas.

Rotation of crops was used for the optimum utilisation of land throughout the year. It was also considered good to maintain the productivity of the soil. Peasants through the experience of generations had acquired some knowledge of using rotation of crops for the good of the soil. They would decide which crop to be replaced by another in a particular field for a better yield.

A semi circular sickle was used for cutting the crop.

The harvested crop was spread on the ground for threshing. Our sources refer to two methods: in the first method the crop was beaten with sticks; in the second method animals were made to move on the spread out crop. The weight and movement of the animals treaded the grain.

The threshed out matter was put in open baskets and the contents were thrown outside the basket at a controlled speed. The chaff got scattered by the wind and the grain fell on the ground.

Means of Irrigation

Indian agriculture was heavily dependent on rains for irrigation needs. The major criterion for selecting the crops for sowing was availability of rain water in a particular region. Apart from rain water, a number of devices were used for artificial irrigation.

Well-irrigation was the most common method employed throughout the length and breadth of the country. A number of methods were used to lift water from wells depending on the water table and technology available.

Various methods used for lifting water have been discussed in **Unit 14**. Here we will give only a brief description of water lifting devices.

In the Northern plains both masonry and non-masonry wells were dug. The non-masonry wells were not durable and some digging was required every year.

The masonry wells were durable and were suitable for fixing better water lifting devices. The masonry wells had raised walls and enclosures or platforms. Both bricks and stones were used to construct wells. These wells were usually set inside with terracotta rings. These are also known as ring wells.

A number of devices were used for lifting water from the wells.

i) The most simple method was to draw water with rope and bucket by hand without any mechanical aid. Due to its limited capacity this device could not have been used for irrigating large fields.

ii) The second method was the employment of pulleys over the wells. The same rope and bucket was used over the pulley to lift the water. With the help of pulley larger amounts of water could be drawn with less effort than our first method. Both the above devices were used for the supply of water in domestic use or for irrigating small plots.

iii) In the third method the rope-pulley was used with the addition of the employment of a pair of oxen. The use of animal power in this method helped in irrigating larger areas.

iv) The fourth device (*dhenkli)* worked on a lever principle. In this method a long rope is lashed to the fork of an upright beam or trunk of a tree to put it in a swinging position. The bucket was fastened to rope tied on one end of the pole. The pole's other end carried a weight heavier than the filled bucket. One person is required to operate it.

v) The fifth method required the use of a wheel. In its earlier form the pots were attached to the rims of the wheels which were to rotate with the help of animal power. It was used to lift water from shallow surface and was of no use for wells.

The use of wheel for lifting water from well was also done. In this form (Persian wheel) a garland of pots was used with 3 wheels, a gear mechanism and animal power. (For details see **Unit 14**) With the help of this device regular supply of large amounts of water could be ensured for irrigating large fields. This was also helpful for lifting water from deep wells. The complex machine and animal power would have made the device expensive. It therefore would have been accessible only to the peasants with substantial means.

Lakes, tanks and reservoirs of water were also used uniformly in all parts of the country. In South India, this was the most prevalent method used for irrigation. Here the dams were made over the rivers. Construction of such reservoirs was beyond individual means. It was therefore the responsibility of the state, local chiefs and temple management to create such facilities. The massive Madag Lake built by Vijaynagar rulers is a marvel of civil engineering of the time. It was built on the Tungabhadra with three earth embankments to bridge the gaps in the hills. When full, this lake was 10-15 miles long. Each of the three embankments had sluices built of huge slabs of hewn stones.

Rajasthan is another region where large reservoirs for storing water abound. The Dhebar Lake in Mewar, according to the *Ain-i Akbari*, had a circumference of 36 miles. The Udaisagar is said to have a circumference of 12 miles; Rajsamand and Jaisamand were other important lakes built in Mewar in the 17th century. Similar reservoirs created with the help of dams in Marwar and Amber regions were Balsamand and Mansagar respectively.

Almost every cluster of villages had smaller reservoirs and lakes where rain water was stored. Our sources inform us that in the 1650s, Mughal administration proposed to advance Rs. 40,000 to 50,000 to the cultivators in Khandesh and Berar for erecting dams for irrigation. It is interesting to note that a wide network of such small dams in Khandesh is still in use, and they cover the basins of the five major rivers in this region, viz., Mosam, Girna, Ken, Panjbra, and Shivan.

In Northern plains, canals figure prominently as a means of irrigation. We have read about canals constructed by Sultan Firuz Tughlaq during the 14th century in the **Sub-Section 11.2.2**. The trend seems to have continued under the Mughals. The *Nahr-i Faiz* built during Shah Jahan's reign was around 150 miles in length. It carried the water from the Yamuna to a large area. Another canal, around 100 miles long, was cut from the river Ravi near Lahore. Remains of a number of canals are available in the whole Indus delta. Irfan Habib is of the opinion that the main deficiency of Mughal canals was that they did not often run above the surrounding plain, and so the water that could be obtained from them for irrigation

was limited to what could be lifted from them. The network of canals in the region kept on increasing. Canals are not reported from South India.

Check Your Progress-3

1) What was the extent of cultivation during Mughal India?

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2) List three methods used for increasing fertility of soil.

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3) List three methods used for lifting water from the wells for irrigating fields.

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4) Name four major lakes or dams used for irrigation.

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11.5 CROPS IN MUGHAL INDIA

India with extensive land area, different types of soils and varying climatic conditions, could boast of a large variety of agricultural products. For the convenience of study, we will discuss agricultural produce under three heads – food crops, cash crops and fruits, vegetables and spices.

11.5.1 Food Crops

The majority of seasonal crops in North India were grown in two major crop seasons *kharif* (autumn) and *rabi* (spring). In some areas the peasants tended to grow even three crops by producing some short-term crops in between. Rice was the main *kharif* crop and wheat was *rabi*. In South India, these distinct crop-seasons with different crops were absent. Here, on wet lands one paddy (rice) crop was in the fields from June/July to December/January and another from January/ February to April/May. In North Arcot, dry crops (kumbu, red gram, horse gram, castor) were sown from May to September/October and harvested from August to December/January on the wet lands, in August/September the ragi and cholam and in February/March the paddy crop, were harvested (*Cambridge Economic History of India*, I: 229).

Rice and wheat were the two major food crops throughout the country. The regions with high rainfall (40" to 50") accounted for the bulk of rice production. The whole of Northeast, Eastern India (Bihar, Bengal, Orissa with parts of Eastern U.P.), southern coast of Gujarat and South India, were rice producing areas. As indicated above, in South India there were two main seasons of rice cultivation *kuddapah-kar* and *samba-peshanam*. They were named after the variety of rice cultivated during the summer and winter seasons.

Rice cultivation is also reported from irrigated areas of Punjab and Deccan. Every region had its own variety of coarse to ordinary to fine quality of rice. Regions of Bengal and Bihar produced the finest quality of rice.

Like rice, wheat also had specific regions. Punjab, Sind, Western Uttar Pradesh and other regions with little rainfall produced wheat. References to its production in Bihar, Gujarat, Deccan and even some parts of Bengal are also available.

Apart from these two major crops, barley was grown extensively in the Central plains. The *Ain-i Akbari* refers to barley production in Allahabad, Awadh, Agra, Ajmer, Delhi, Lahore and Multan, etc.

Millet is reported with some exceptions mainly from wheat producing zones. *Jowar* and *bajra* were the two main millets.

Pulses are reported from different regions. Important ones are gram, *arhar*, *moong*, *moth*, *urd* and *khisari* (the latter was grown extensively in Bihar and the regions of present Madhya Pradesh). However, Abul Fazl says that *khisari's* consumption was injurious to health. The same is confirmed by modern researches.

It was believed for long that maize (*makai* or *makka*) was not known in India during the 17th century. Some recent works establish beyond doubt that it was grown definitely in Rajasthan and Maharashtra and possibly other regions also during the second half of the 17th century.

11.5.2 Cash Crops

Crops grown mainly for the market are commonly termed as cash crops. These are referred to in Persian records as *jins-i kamil* or *jins-i ala* (superior grade crops). Unlike seasonal food crops, these occupied the fields almost the whole year. The major cash crops in the 16th-17th centuries were sugarcane, cotton, indigo and opium. All these crops were known in India from historical times. However, in the 17th century their demand increased due to enhanced manufacturing and commercial activities. During this period, a large foreign market also opened for these commodities. The Indian peasant, quick to follow the market demand, increased the cultivation of these crops.

Sugarcane was the most widely grown cash crop of the period. The *Ain-i Akbari* records it in most of the ***dastur circles*** of Agra, Awadh, Lahore, Multan and Allahabad. Sugar from Bengal was considered to be the best in quality. Multan, Malwa, Sind, Khandesh, Berar and regions of South India all testify to the presence of sugarcane in the 17th century.

Another cash crop grown throughout the country was cotton. The region with large scale cultivation were parts of the present day Maharashtra, Gujarat and Bengal. Contemporary sources refer to its cultivation in Ajmer, Allahabad, Awadh, Bihar, Multan, Thatta (Sind), Lahore and Delhi.

Indigo was another cash crop widely cultivated under the Mughals. The plant yielded a blue dye (*neel*) which was much in demand in India and European markets. Its presence is recorded in the *dastur* circles of Awadh, Allahabad, Ajmer, Delhi, Agra, Lahore, Multan and Sind. Its cultivation is referred in Gujarat, Bihar, Bengal, Malwa and Coromandal in South India and Deccan. The varieties high in demand were those of Bayana and Sarkhej. Bayana, a place near Agra, was considered as producing the best quality of indigo and fetched high price. Sarkhej, near Ahmadabad, was considered second in quality and also fetched a high price. Other notable places for quality indigo were regions around Khurja and Aligarh (in U.P.), Sehwan (in Sind) and Telingana (in Deccan).

Cultivation of opium is reported from a number of places in India. The Mughal provinces of Bihar and Malwa seem to have produced good opium. It was also cultivated in Awadh, Bihar, Delhi, Agra, Multan, Lahore, Bengal, Gujarat, Marwar, and Mewar in Rajasthan.

Cultivation of tobacco seems to have spread in India in a short time. The *Ain-i Akbari* does not mention it as a crop in any of the *dastur* circles or other regions. It seems to have been introduced in India during the 16th century by the Portuguese. Its cultivation was noticed in almost all parts of the country (specially in Surat and Bihar).

Cultivation of coffee seems to have started during the second half of the 17th century while tea does not figure during the period of our study as a common beverage.

San or sunn-hemp, a fibre yielding plant, was cultivated in all the core provinces of the Mughal empire (Awadh, Allahabad, Agra, Lahore, Ajmer, etc.).

Sericulture (rearing of silkworms on a mulberry plant) was carried on in Bengal, Assam, Kashmir and western coast. However, Bengal was the main region of production.

The plants whose seeds were used for extracting oil come under the category of food as well as cash crops. The main oil yielding crops listed are rapeseed, castor, linseed. Rapeseed is reported in all provinces from Allahabad to Multan as also in Bengal. Cultivation of other oilseed plants was relatively less widespread.

11.5.3 Fruits, Vegetables and Spices

Horticulture seems to have reached new heights during the Mughal period. The Mughal Emperors and the nobles planted lavish orchards. Almost every noble of consequence had his gardens on the outskirts of the towns where they resided. Orchards and groves were laid down with careful planning. A number of fruits available today were introduced in India during 16th and 17th centuries. Pineapple (anannas) is one such fruit which was brought from Latin America and introduced in India by the Portuguese. In a short period of time it became popular and was extensively cultivated all over the country.

Papaya and cashew-nuts were also introduced through the same agency, but their spread was a bit slow. Leechi and guava seem to have been introduced later. Cherries were brought from Kabul and grown in Kashmir through grafting. The practice of grafting was in order to improve the quality of a number of fruits. Quality of oranges and other types of citrus fruits, apricots, mangoes and a host of other fruits was greatly improved through grafting. Coconut was grown not only along the coastal region but also inland.

Seeds of different variety of melons and grapes were brought from Kabul and successfully grown in the gardens of Emperors and nobles. Ordinary melons were grown everywhere on riverbeds by the peasants.

A large variety of vegetables were grown all over the country. The *Ain-i Akbari* provides a long list of vegetables in use at that time. Potato and Tomato seem to have been introduced in the 17th century and after.

For centuries India was known for its spices. The Southern coast of India witnessed large scale spice export to various regions in Asia and Europe. Pepper, clove, cardamom were plentiful. Ginger and Turmeric were grown extensively. The Dutch and English purchased large quantities for export. Saffron grown in Kashmir was celebrated for its colour and flavour. *Pan* (betel leaf) was produced

in many areas. The *Maghi Pan* of Bihar and various other varieties from Bengal were famous. Betel-nut was also produced in coastal regions.

Large forest tracts supplied a number of commercially important products. Lignum used for medicinal purpose and *lakh* were exported in large quantities.

11.5.4 Productivity and Yields

Shireen Moosvi has worked out the productivity of crops and per *bigha* yields for Mughal India (Moosvi 1987:, Chapter 3). In this Section, we will be providing information based mainly on her researches. The *Ain-i Akbari* provides schedules of crop yield and revenue rates for *zabti* provinces (Lahore, Multan, Agra, Allahabad, Awadh and Delhi). For each crop, yields are provided separately for high, middling and low categories. An average yield can be worked out on the basis of these. However, Abul Fazl does not inform us what was the basis of the three categories? It seems that the low yields are those of non-irrigated land while the rest two are for irrigated fields.

Shireen Moosvi has worked out the agricultural productivity on the basis of various data available from the 16th century records. According to her estimates the yields (average of high, middling and low yields) for some major crops were as follows:

Average Crop Yields: 1595-96
(man-i Akbari* per *bigha-i Ilahi)

Crops	Yields	Crops	Yields	Crops	Yields
Wheat	13.49	Barley	12.93	Gram	9.71
Bajra	5.02	Jowar	7.57	Cotton	5.75
Sugarcanee	11.75	Mustard	5.13	Sesame	4.00

Source: Shireen Moosvi, (1987) *Economy of the Mughal Empire c. 1595. A Statistical Study* (New delhi: Oxford University Press), p. 82.

Shireen Moosvi has also compared the yields of the *Ain-i Akbari* with yields around the close of the 19th century. She finds that on the whole there is no major change in the productivity of food crops between the two periods. However, in case of cash crops a definite increase in the productivity in the 19th century can be noticed.

11.6 CATTLE AND LIVESTOCK

The cattle played a very important role in agricultural production of our period. They were employed in important agricultural activities like ploughing and irrigation, and their dung was used for manuring. Besides, dairy products contributed substantially to the agriculture-related production. The peasants in general along with some specialised castes were involved in the rearing of cattle.

Large scale involvement of cattle in agricultural operations suggests the presence of large cattle population. With high land-man ratio, grazing fields would have been available in abundance. Contemporary European travellers refer to large numbers of cattle in Indian fields. Irfan Habib suggests that the per capita cattle population in Mughal India compares favourably with modern statistics. Abundance of butter or *ghee* is said to be the diet of the common people; this also suggests a large cattle population. Oxen were used for transporting goods as pack-animals or for bullock carts. The *banjaras* (migrant trading community) are said to have maintained flocks of a few hundred to thousand animals. Flocks of thousands of sheep and goats were also reared.

Check Your Progress-4

1) List six main food crops.

1) ..... 4) .....

2) ..... 5) .....

3) ..... 6) .....

2) What are food crops, cash crops and oil yielding crops?

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3) List four major cash crops.

1) ..... 3) .....

2) ..... 4) .....

4) List four fruits brought to India from outside

1) ..... 3) .....

2) ..... 4) .....

11.7 AGRARIAN RELATIONS: MUGHAL INDIA

In this Section we will focus our attention on agrarian relations of Mughal India.

11.7.1 Revenue Grantees

While the *jagirdars* were given revenue assignments in lieu of cash salary (for details see **Unit 9**), there was another category of people which was given revenue grants for their subsistence. This was the class of religious men, scholars and destitutes who were patronised by the state.

These grants were known as *suyurghal* or *madad-i maash* (aid for subsistence). A separate department under the charge of the *sadr-us sudur* looked after these grants. If the aid was given in cash, it was known as *wazifa*. There were certain categories of people who were qualified to receive *madad-i maash*. These grants did not invest the grantee with any right over land but were entitled to the prescribed revenue from its produce. Akbar put the ceiling of such grants of land to 100 *bighas* per person. The policy of Akbar was to grant half cultivable and half waste land to improve agriculture.

The grant was for the lifetime of the grantee and the heirs could apply for a renewal. Generally only a part of the grant was allowed to heirs. Jahangir confirmed all the grants made by Akbar while Shah Jahan began to examine all grants given during the previous reigns. He allowed 30 *bighas* to be inherited, Aurangzeb reduced it to 20 *bighas*. In the 30th year of his reign, he allowed the grant to be entirely hereditary, by calling such grants as loan (‘*ariyat*’) and not property. In the latter part of his reign as well as after his death, the grantees started enjoying the right to sell or transfer the land, which, then, acquired the characteristics of a *zamindari*.

In Akbar's period, it was found that the revenue of such grants would not be over 5.84% of the total *jama*. The mapping of these grants shows that most of these were concentrated in the upper Gangetic provinces (highest in Delhi and Allahabad). It appears that no change had taken place in the proportion of the revenue alienated through the grants till the early years of Muhammad Shah. The mapping also show that these grants were mainly in the urban areas. We find that over 70% of the *suyurghal* lay in the *parganas* which were under the control of the non-Muslim *zamindars*.

Another type of grant (*waqf*) was given to institutions, etc. Revenues of certain lands were permanently assigned for the maintenance of religious tombs, shrines, *madrasas*, etc. Such grants could be given by the *jagirdars* also, and lasted till the term of the *jagirdar* in that area.

The *madad-i maash* grants were intended to create pockets of influence and to develop waste lands. Generally, these were given to Shaikhs and Sayyids and other men of learning. In emergency they joined the government forces to curb local disturbances. The total revenue alienated in such grants was not large. There was a tendency on the part of the grantees to acquire *zamindari* rights in their area and elsewhere. Thus, some of them transformed themselves into small *zamindars*. By the first half of the 18th century, these grants were treated as *zamindari* land in all transactions

11.7.2 The *Zamindars*

The *zamindar*s were present in practically every part of the Mughal Empire and held the most significant position in the agrarian structure of Mughal India. The word *zamindar* is derived from two Persian words – *zamin* (land) and *dar* (holder). During the pre-Mughal period, the word *zamindar* has been used in the sense of the chief of a territory. The fact that a chief had acknowledged the supremacy of a superior sovereign power made no difference to his position within his own domain, so long as he was allowed to retain it. From Akbar's time onwards, this term was officially used for any person with any hereditary claim to a direct share in the peasant's produce. The early local terms such as *khot* and *muqaddam* in the Doab, *satarahi* and *biswi* in Awadh, *bhomi* in Rajasthan and *banth* or *vanth* in Gujarat were replaced by the term *zamindar*. However, many of these terms continued to be used interchangeably with *zamindars* in contemporary accounts. The areas without *zamindars* were termed ***raiyati*** (peasant held).

Nurul Hasan divides the *zamindars* into three categories.

a) Primary *zamindars* who had some proprietary rights over the land;

b) Secondary *zamindars* who held the intermediary rights and helped the state in collecting land revenue; and

c) Autonomous chiefs – had autonomous rights in their territories and paid a fixed amount to the Mughal State.

Zamindari Rights

Zamindars did not signify a proprietary right in land. It was a claim on the produce of the soil, co-existing in a subordinate capacity, with the land revenue demand of the state. Yet, like any article of private property, it could, and was, freely bought and sold. It was also inheritable and divisible, that is, the heirs of a *zamindar* could divide the fiscal claims and perquisites of their inherited *zamindari*, in accordance with the law of the land.

The *zamindar* acquired his rights by virtue of the historical tradition of control he and his kinsmen exercised over the inhabitants of particular villages. At times, the *zamindars* had settled villages and distributed its land among the peasantry. In eastern Rajasthan, *wasidar* (a category of peasants) were settled by the *bhomia* (*zamindar* as known there) in the village to undertake sometimes the cultivation of his personal lands. The *zamindari* rights, therefore, were not created by the ruling classes, but preceded them. The king, however, could create *zamindari* in villages where none existed. He could also dislodge a *zamindar*, but this was a right he exercised only in case of sedition or non-payment of revenue.

The medieval rulers recognised the rights of the *zamindars*, but were equally insistent on treating them as agents of the government for revenue collection. When the *zamindari* took this form, that is, it came to assist the government in the collection of revenue, for the service (*khidmat*) so rendered, the *zamindar* was entitled to a percentage of the total revenue collected. This percentage in official documents is stated to be 10% and is described as *nankar* ("allowance"). When the administration decided to collect the revenue through its own agents, by-passing the *zamindar*, the latter was entitled to a share in the collection of revenues called *malikana* (proprietary right), and like *nankar*, was fixed at 10% of the total revenue collected.

In Gujarat, this claim of the *zamindar* was described as *banth* or *vanth*, but unlike *malikana* in Northern India, it was considerably higher. Like *malikana*, it was paid in the form of cash. In the Deccan, it was called *chauth* (lit. "one fourth"), and as the name suggests, stood at one-fourth of the revenues collected. *Sardeshmukhi*, another fiscal claim of the *zamindar* in the Deccan, was equivalent to 10% of the revenues. Under the Marathas, the cesses of *chauth* and *sardeshmukhi* came to be realised not through a legal claim based on actual *zamindari* right, but by the sheer use of force. Under Shivaji, while the claim of the king comprised one-fourth of the *chauth* and the whole of *surdeshmukhi*, the other three-fourths of the *chauth* was to be retained by the Maratha feudatory barons.

Besides their principal fiscal claim, the *zamindars* also exacted a number of petty perquisites from the peasantry. Some of the well-known cesses so realised were *dastar shumari* (turban tax), house tax (*khana shumari*), cesses on marriage and birth, etc. The *zamindars* used to collect taxes from weekly markets also in their areas. At times, they are found collecting toll tax on merchandise passing through their territories. The amount that the *zamindars* realised through these petty perquisites is quite difficult to estimate; in all probability, in relation to their principal fiscal claim, it was not quite considerable.

We have so far been discussing about the primary and intermediary *zamindars*, that is, those who resided in the directly administered territories, and of whom the administration was anxious that they be reduced to the status of mere 'rent-gatherers'. Apart from them, there were chiefs or chieftains – the *rajas*, *raos*, *ranas* and *rawatas* – who were more or less autonomous in their estates, governning them without any interference from the imperial administration (see **Unit 6.6**). Their obligation to the king did not go beyond paying him a fixed amount as tribute (*peshkash*). Their share in the surplus produce of the peasant, therefore, amounted to the difference between what they collected from the peasants and what they paid to the king as *peshkash*. The Imperial administration recognised their semi-autonomous status, and exercised no control over their internal administration once they had paid the usual *peshkash*. According to Irfan Habib, the difference between the *zamindars* and autonomous chiefs "lay most clearly in

the relationship with the imperial power which allowed autonomy to the chiefs, but made ordinary *zamindar* mere propertied subjects of the Emperor".

Military Strength of *Zamindars*

The *zamindars* employed their footmen and cavalry. These troops helped them in the realisation of land revenue and subjugation of peasantry. Almost all *zamindars* had their own small or big *qilachas/garhi* or forts. According to the *Ain-i Akbari*, the troops of the *zamindars* in the whole Mughal Empire exceeded forty four lakhs. In Bengal they possessed thousands of boats.

Chaudhuris

As mentioned earlier, the *zamindar* played a prominent role in the collection of land revenue. Some of these *zamindars* were designated as *chaudhuri* for the purpose of collection of revenue. One of the prominent *zamindar*s of a *pargana* was appointed *chaudhuri*, generally one in each *pargana*.

The *chaudhuri* was supposed to collect the revenue from other *zamindar*s of the *pargana*. Apart from their customary *nankar*, these *chaudhuris* were entitled to another share in the land revenue collected by them. This was termed *chaudhurai* which amounted to two and a half per cent of the revenue collected. Unlike the *zamindar*, the *chaudhuri* was appointed by the state and could be removed for improper functioning.

11.7.3 Other Intermediaries

Each village had a number of hereditary officials. The most important of them was the village headman (*muqaddam* in Northern India and *patel* in the Deccan). He was the person responsible for the collection of land revenue and maintenance of law and order in the villages. For the services so rendered, he was granted a part of the village land revenue-free, though, in some cases, he was also remunerated in cash at a percentage of total land revenue realised. In addition, he was also entitled to receive some amount of produce from peasants. In the task of the collection of land revenue the *muqaddam* was assisted by the village accountant (*patwari* in Northern India and *kulkarni* in the Deccan). The *patwari's* task was to maintain a record (*bahi*) of the revenue collected from the individual peasants and its payment to the state authorities. His records, therefore, were of immense help to the administration in assessing the revenue-paying capacity of the peasants and in fixing the total land revenue claim on the village. Like the *muqaddam* he was also remunerated by the grant of revenue-free land or by a fixed commission in the total revenue collected. However, being an employee of the village organisation, his allowance was much smaller than that of the village headman. The office and the accompanying privileges of both the *muqaddam* and *patwari* were hereditary.

Check Your Process-5

1) What do you understand by revenue free assignments?

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2) Describe briefly the nature of *zamindari* rights?

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3) Write three lines on each of the following:

i) *Chaudhuris* .....

.....

ii) *Muqaddam* .....

.....

11.7.4 Peasantry

In the earlier Sections, we studied about the classes who enjoyed superior rights over the produce of the land. In this Section we will discuss the main producing classes.

The main agrarian class, directly involved with the agricultural production, was the peasantry. Though the class had a number of strata within it, for the convenience of study we are including all of them under one nomenclature.

The peasants constituted the primary class in rural society and the revenue collected from them sustained the whole state apparatus. We have noticed in **Unit 10** that the peasant had to pay a large part of their produce as land revenue. It appears that the bulk of the peasantry lived on the subsistence level of existence.

Land Rights of Peasantry

There has been a long debate among historians regarding the rights of the peasantry over land. Peasant's claim to land was not disregarded by the state, yet he was never allowed the right to free alienation. It appears that peasants had all the rights over land as long as he cultivated it. The *zamindars* or state had no right to evict the peasant as long as he cultivated the land and paid the revenue. It seems that proprietary rights in land were not quite developed during the Mughal period. However, the most important aspect of the period is the varying claims over the produce of the land.

In contemporary accounts we come across a number of references to the flight of the peasantry from villages because of oppression or other problems. A number of instances are available about peasants settling individually or in groups in various regions. The mobility of the peasant was an established practice in Mughal India. This mobility was more pronounced in cases of their oppression in one region or natural calamities like floods and famines.

Stratification of Peasantry

The peasantry was not a homogenous class. The stratification was due to inequalities in wealth and social status. Peasants with large resources cultivated bigger plots of land, and even employed labourers on his fields. They could acquire head-ship of a village (*muqaddam* or *patel*) and enjoy a superior share in the produce of other peasants. The divisions were so well-established that they are differently designated even in official accounts and records. Richer peasants are referred to as *khudkasht* (self-cultivated) in Northern India, *gharuhalas* in Rajasthan and *mirasdars* in Maharashtra. The poor peasants are referred to as *reza ria'ya* (small peasant) in Northern India, *paltis* in Rajasthan and *kunbis* in Maharashtra.

One major reason for this can be found in the wide prevalence of cash-nexus. Since land revenue in the larger part of India had to be paid in cash, peasants and cultivators were forced to carry their produce to the markets or sell it to merchants or moneylenders on the eve of harvest. In such a situation, those peasant who could cultivate cash crops would be placed in a better position, because of the higher prices they fetched in the market than those who, owing to their scarce resources, could only cultivate food crops for which the prices were comparatively low. Not all peasants could shift to cash crop cultivation since it involved much expenses (good seeds, better fertilisers, irrigation facilities, and also more productive soil). The requirement of the payment of land revenue in cash would thus cause a widening gulf between the relatively better-off peasants whose resources allowed them to shift to cash crop cultivation and the poor peasants who found even the cultivation of food crops an arduous and expensive business. The regressive nature of land revenue demand was another major factor that caused and intensified divisions within the peasantry. The incidence of land revenue demand being uniform for both the rich and the poor peasants, in actual fact it fell more heavily on the latter than on the former. The village organisation, or what has often loosely been described as the "village community", further perpetuated these divisions by levying lower revenue rates on the *khudkasht* peasants, and calling upon the *reza ri'aya* to meet the deficit thus arising in the total revenue claim.

Economic inequalities were not the only basis of divisions within the peasantry. They were also divided between the permanent residents of the village (*khudkasht* in Northern India, *mirasdar* in Maharashtra and *thalvaik* or *thalkar* in the Deccan) and the temporary residents (*pai/pahi kasht* in Northern India; *upari* in Maharashtra). Caste associations and kinship ties (*bhaichara*), even as they served as linkages that afforded supra-local affinities were also at the same time sources of divisiveness.

Below the class of peasants existed in rural India a large population of menial workers. Their number or their proportion to caste peasantry is almost impossible to estimate, yet, in all probability, they did constitute a significant portion of the rural population of India. They are described in the contemporary literature as 'chamars', *balahars*, *thoris* and *dhanuks*, etc. They were a cheap source of labour for the peasants and *zamindars* to work on their fields during the sowing and harvest seasons. It was, therefore, in the interest of both of them (i.e., the peasants and *zamindars*) to suppress and exploit them. The creation of a huge reserve of labour force for agricultural production reduced the cost of production, which enhanced the "surplus" produce of the peasant, and thus allowed a greater exploitation of land revenue by the ruling power. In the suppression of the menial workers, the state, the *zamindars* and the peasants were equal collaborators.

11.7.5 Village Community

Generally the peasants of a village had a majority of the same caste. Such villages were established historically by one clan or family. Apart from the peasants of the dominant caste of a village, there were menial workers who came from lower castes. From the contemporary accounts it appears that in many activities these villages functioned as a community. It should not be taken to mean that there were any communal land holdings. The fields were definitely held by individual peasants. The revenue officials found it convenient to treat village as a unit for revenue assessment and collection. The description of the *patwari* as a village official supports this. It is reported that the *patwari* was supposed to keep the account of individual peasants production and revenue liability. The payment to

state was made by the village as a unit. The revenue from the individual peasants was put in a pool whose incharge was the *patwari*. From this pool, land revenue, fees and perquisites of certain officials and sundry common expenses of the village were paid. Even the loan taken from the moneylenders was paid back out of the village pool.

The dominant group of people in a village constituted the village *panchayat*. The latter used to decide village affairs regarding dispute over land rights, disposal of waste land, etc. It was also responsible to the state for arresting criminals, compensating for the value of goods stolen or tracing them. These *panchayats* were not above the state. The latter allowed it to discharge its traditional role in the village society only if its activities were not hampering the basic interests of the state.

Some social groups in the village were not directly involved in the agrarian production, but they played some role in the agrarian activities. The *mahajans* acted as middlemen between the state and peasants and had considerable control over the rural society and economy. They would advance loans to individual peasants and village collectively for buying seeds and equipments or pay revenue or for social needs.

The village had artisans attached to it to provide their services and were paid at the harvest. The system was very well organised in Deccan and Maharashtra. These were called *balutedars*. We have discussed about them in some detail in **Unit 4**. The system of village community, *panchayats* or *balutedars* was not uniformly applicable to all the villages of the Mughal Empire. There were different types of structures in different regions. Most villages had some sort of community structure, though varying in degrees of control on their members.

11.7.6 Relations Between Agrarian Classes

In the earlier Sections of this Unit, we studied about various agrarian classes. We noticed that a number of groups appropriated a share in the surplus of the produce, i.e., *jagirdars*, religious grantees, *zamindars* and various intermediaries at the village level. We have also studied about the producing class or peasantry. Here, in this Section, we will study the relations between these classes.

Both the *zamindars* and the *jagirdars* fed upon the surplus produce of the peasant, and therefore, insofar as the exploitation of the peasantry was concerned, both acted as each other's collaborators. Yet, the *zamindar*, being permanently based would not allow exploitation that went beyond the alienation of surplus produce, for that would lead to exodus of the peasantry and desertion of agricultural operations which would in turn affect his own fiscal claims during the following year. The *jagirdars*' attitude is best reflected in Bernier's account who visited India in the mid-17th century. He writes that, because of the frequent transfers of *jagirs* the *jagirdars*, governors and revenue contractors were not bothered about the deplorable state of peasantry. They therefore were interested in exploiting the peasantry to the maximum even at the cost of their desertion and fields lying unattended.

Jawahar Nath Bekas, an 18th century writer observes that the *hakim* (*jagirdar*) of a day can in a moment remove a *zamindar* of five hundred years, and put in his stead a man who has been without a place for a life-time. Irfan Habib further elaborates his powers and writes that 'as for peasants, the *jagirdars* claimed powers to detain them on the land, like serfs, and bring them back, if they ran away'. In the second half of the 17th century due to the uncertainty of holding a *jagir* for a stipulated period, the *jagirdars* oppressed peasants. They had no regard for their welfare.

According to Irfan Habib, 'While undoubtedly the Mughal administration sought to take measures to regulate and moderate the *jagirdars*' exactions, it is not certain that these could reduce the pressure for short-term maximization of revenue by individual *jagirdars*. Such pressure not only inhibited extension of cultivation, but also involved the Mughal ruling class in a deepening conflict with the two major agrarian classes, the *zamindars* and the peasantry'.

The divisions within the peasantry, as also the deep contractions that existed between the peasants and agricultural workers, acted as severe constraints and weakened the capabilities of this class. Disjointed and truncated, this class was quite incapable of confronting the medieval despotic states. It did, however, revolt for two reasons: one, when the revenue demand appropriated more than the surplus produce of the peasants, thereby threatening their very subsistence. Peasant revolts in these circumstances never went beyond asking for a reduction in revenue demand. Peasants also revolted as followers of a *zamindar* who was leading a revolt against the state or *jagirdar* (mostly on the question of his claim to the produce of the soil), either in the hope that the end of revolt would lead to better conditions of living for them or simply as rendering a serivce to their overlord. Peasant revolts, particularly those of the Satnamis and the Jats, in the reign of Aurangzeb were of this nature were actually *zamindari* revolts: the *zamindars* led them and the peasants served the purposes of the *zamindars* alone.

Check Your Process-6

1) Give a brief account of various categories of peasants.

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2) How did the village community function?

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3) Discuss the clash of interests between the *jagirdar* and *zamindar*?

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11.8 SUMMARY

To sum up, in the present Unit we have focussed on the agrarian structure – agricultural production, means of irrigation, peasants and the rural intermediaries – of the Delhi Sultanate and the Mughals. During this period large scale cultivable land was yet to be brought under cultivation. Double cropping was prevalent in the Doab. Canals were the major source of artificial irrigation. At village level differentiation (hierarchy) existed between the superior right holders (*khots*, *muqaddams* and *chaudhuris*) and the ordinary peasants (*raiyat*).

Contemporary foreign observers remark about the primitiveness and simplicity of agricultural implements, but they were well suited to the needs of Indian agriculture. Agriculture was dependent mainly on rain water, but means and methods of artificial irrigation were also employed. Wells fitted with various devices like, *dhenkli*, *charas* and *saqiya* (Persian Wheel) to lift water, and tanks, reservoirs and to, a limited extent, canals were the main source for irrigation.

The Indian peasants raised a number of food and cash crops. Some land was used for two or more crops. Rotation of crops and cultivation of cash crops according to market needs was a special feature of the period. Production of fruits both in quality and quantity reached new heights.

The productivity and yield of crops compares well with the late 19th century modern yields and productions. Cattle and livestock seem to have higher per capita population in the Mughal period.

In this Unit, we have also studied that

- on behalf of the state, the *jagirdar* appropriated a major share in the agricultural surplus;
- the revenue grantees enjoyed revenue-free lands granted to them by the state;
- the *zamindar* was not the owner of the land but had hereditary rights in the produce of soil. These rights were salable;
- when the *zamindar* collected revenue for the state, he was entitled to *nankar*. When the state directly collected the revenue, the *zamindar* was paid a share called *malikana*. The *zamindars* were entitled to a number of other petty perquisites;
- the *zamindars* maintained troops;
- caste and kinship ties divided the *zamindars* and prevented its growth as the governing class of India;
- village headman and other officials also appropriated a part of agrarian surplus;
- the peasants had to pay larger part of his produce to the state, *zamindar* and other intermediaries;
- the peasantry was not a homogenous group but was divided on the basis of their income and holdings. Kinship and caste ties also divided them;
- landless peasants or village menial workers were the most oppressed class in the agrarian society; and
- there was a serious clash of interests between the *jagirdar* and the *zamindar*. In case of conflicts between the two, the peasants were generally on the side of the *zamindars* and suffered most in these clashes.

11.9 KEYWORDS

Bigha-i Ilahi	The area of 60 square *gaz-i Ilahi* (yards of Akbar); the length of *gaz-i ilahi* was around 32 inches. One *bigha-i ilahi* was around .60 of an acre
Cash-crops	Crops produced for markets
***Dastur* Circles**	The territory whithin which same cash revenue rates were applied for different crops, the whole province was divided into number of *dastur* circles with separate revenue rates

***Dartur* Rates**	Cash revenue rates for different crops per unit of area
Distillation	Lit. substance was turned to vapour by heating, then the condensed vapour was collected
Jama	The estimated income
Kroh/Kuroh	Used for measuring distance; 1 *Kuroh* = 2.5 miles
Kharif	Autumn crop
Kharaks	Cattle-pens
Man-i Akbari	The measure of weight which was around 55 pounds.
Ploughshare/coulter	The pointed tip of the plough which was used for digging the ground. It was made up of iron or hardwood
Rabi	Winter crop
Raiyat	Ordinary peasants

11.10 ANSWERS TO CHECK YOUR PROGRESS EXERCISES

Check Your Progress-1

1) See Section 11.2
2) See Sub-section 11.2.2
3) i) × ii) ✓ iii) ×

Check Your Progress-2

1) See Sub-sections 11.3.1 and 11.3.2
2) i) × ii) ✓ iii) ✓

Check Your Progress-3

1) See Sub-section 11.4.1
2) You can write use of various types of manure and rotation of crops etc. See Sub-section 11.4.2
3) You can leave out methods which were employed to draw smaller quantities of water. See Sub-section 11.4.2
4) See Sub-section 11.4.2

Check Your Progress-4

1) See Sub-section 11.5.1
2) Cash crops were those crops which were grown mainly to be sold in market; while food crops were for personal consumption and market; the oil yielding crops were grown to extract edible oils. See Sub-sections 11.5.1, 11.5.2
3) See Sub-section 11.5.2
4) See Sub-section 11.5.3

Check Your Progress-5

1) See Sub-section 11.7.1
2) Discuss *zamindar's* rights were over the produce of the land. See Sub-sections 11.7.2

3) See Sub-sections 11.7.2 and 11.7.3

Check Your Progress-6

1) Peasants can be divided into a number of categories on the basis of their land holdings, resources and nature of rights. See Sub-section 11.7.4

2) The common body of residents in a village worked as village community. See Sub-sections 11.7.5

3) The *zamindars* had permanent interests in their areas while *jagirdars* were transferable. The latter were interested in the maximum exploitation of peasantry while *zamindars* were scared of the desertion of land by peasantry and loosing their share of the revenue. See Sub-section 11.7.6

11.11 SUGGESTED READINGS

Fukazawa, H., (1991) *The Medieval Deccan: Peasants, Social Systems and States, 16 to 18 Century* (Delhi: Oxford University Press).

Habib, Irfan, (1990; Revised) *Agrarian System of Mughal India 1556-1707* (Delhi: Oxford University Press).

Habib, Irfan, (2016) *Economic History of India AD 1206-1526* (Delhi: Tulika Books).

Moosvi, Shireen, (1987) *The Economy of the Mughal Empire c. 1595 : A Statistical Study* (New Delhi: Oxford University Press).

Raychaudhuri, Tapan and Irfan Habib, (1982) *The Cambridge Economic History of India,* Vol. I (Delhi: Cambridge University Press).

11.12 INSTRUCTIONALVIDEO RECOMMENDATIONS

Agricultural Production in Mughal India - I
https://www.youtube.com/watch?v=TzJbp2uRhoc

Agricultural Production in Mughal India – II
https://www.youtube.com/watch?v=TO_2hyR7nmo

Agrarian Structure in Mughal India - I
https://www.youtube.com/watch?v=OEf15hoqwqw

Agrarian Structure in Mughal India - I
https://www.youtube.com/watch?v=e1oL3k9-hn8

Zamindari System
https://www.youtube.com/watch?v=Hp7NPo0T90Q

UNIT 12 INLAND TRADE*

Structure

12.0 OBJECTIVES

In this Unit, you will study the expansion of trade under the Delhi Sultanate. In the Delhi Sultanate three interrelated developments occurred: a considerable increase in the size and possibly in the number of towns, a marked rise in craft production, and a corresponding expansion in commerce. Here, we will also discuss the inland trade of India during the Mughal period. You will also learn about the mercantile groups involved in trade and commercial practices of the period. After going through this Unit, you should be able to:

- understand the pattern of local, regional and inter-regional trade during the period of our study,
- know about the major merchant groups involved in trading activities,
- list the main commodities of inland trade,
- analyze the role of brokers, ***sarrafs*** and moneylenders in commerce,

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- have an idea about the pattern of India's foreign trade, especially the overland trade, and
- know about the bills of exchange, commercial lending, rate of interest and partnership in business.

12.1 INTRODUCTION

In **Unit 11**, we have discussed the commodity production in different regions of the empire. We also noticed that the volume of production was higher than the local consumption. Large amounts of this surplus production were used for trading purpose. Trade in agricultural products started from the field itself. Similarly, commercial transactions of craft products also started from artisan's household. All this took place at various levels – local, regional, inter-regional and outside the country. In this Unit, we will discuss the pattern of inland and foreign trade. During this period, political stability and enhanced production gave a fillip to trading activities. The volume of trade increased manifold. With the increase in commercial activities, a number of specialized groups involved in trade also grew. At the same time, some basic commercial practices were also established. In the whole commercial process, certain specialized groups of merchants, brokers and *sarrafs* played their role at various levels. Large-scale trading operation strengthened some of the existing practices and institutions and gave rise to new ones. Systems of banking, bills of exchange and lending of money were important ones. Trading partnership and insurance were also in vogue.

12.2 TRADE AND COMMERCE UNDER THE DELHI SULTANATE

There emerged some considerably big flourishing towns as well as numerous townships during the 13th-14th centuries. These towns naturally needed to be fed and supplied raw material for craft production. At the same time, there was growing practice of land revenue realization in cash. By the time of Alauddin Khalji, the cash-nexus came to be well developed and the ruling class tended to claim almost the entire peasant surplus by attempting to reduce the share of rural intermediaries, as we have seen in the previous Units.

Both these factors were conducive for the development of inland trade. To pay the land revenue in cash, the peasantry was forced to sell its surplus produce while merchants had a market in newly emerged towns for agricultural products. This trade resulting from the compulsions of land revenue system is termed as **'induced trade'.**

12.2.1 Inland Trade

The inland trade developed at two levels: (a) the short distance village-town trade in commodities of bulk, and (b) long distance inter-town trade in high value goods. The village-town trade, as already explained, was a natural consequence of the emergence of towns and realization of land revenue in cash. The urban centres were dependent for supply of food grains and raw material for manufactures from the surrounding villages whereas the villages had to sell the agricultural products to receive cash for meeting the land revenue demand. The peculiar nature of this trade was the one-way flow of commodities. While the towns received grains and raw material from the villages in the vicinity, they had no need to send their products in exchange to the villages which were by and large self-sufficient. This one-way trade was owing to the land revenue demand imposed upon villages

which naturally led to a continuous drain on rural sector and made the towns dependent on villages. The turnover of this trade was high in terms of volume but was low in terms of value. The commodities were food grains, that is wheat, rice, gram, sugarcane, etc. and raw material like cotton for urban manufactures.

The inter-town trade was mainly in luxury articles and was thus a high value trade. The manufactures of one town were taken to another. For example: Barani reports that Delhi, the capital itself, received distilled wines from Kol (Aligarh) and Meerut, muslin (fine cloth) from Devagiri and striped cloth from Lakhnauti (Bengal), while, according to Ibn Battuta, ordinary cloth came from Awadh and betel-leaf from Malwa (twenty-four days' journey from Delhi). Candy sugar was supplied to Multan from Delhi and Lahore and *ghi* from Sirsa (in Haryana). The long distance inter-town trade also carried goods coming from other countries from entry-point towns to other urban centres as well as the export goods to exit-points. Multan was perhaps the great entrepot for overland foreign trade and served as a centre of re-export, while Gujarat port towns such as Broach and Cambay were exchange centres for overseas trade (as shall be discussed in **Unit 13**).

Overland Trade

During the Sultanate period, overland trade was in a flourishing state. Multan was the major trading centre for overland trade. India was connected to Central Asia, Afghanistan and Persia through the Multan-Quetta route. But on account of repeated Mongol turmoil in Central Asia and Persia, this route was less preferred by the merchants.

12.2.2 Commercial Classes

Two types of merchants are mentioned in the sources of the Delhi Sultanate: the *karwanis* or *nayaks* and *Multanis*. The merchants specializing in carrying grains were designated by Barani as *karwanis* (a Persian word meaning those who moved together in large numbers). The contemporary mystic, Nasiruddin (Chiragh Delhi) calls them *nayaks* and describes them as those 'who bring food grains from different parts to the city (Delhi) – some with ten thousand laden bullocks, some with twenty thousand'. It can be said with a degree of certainty that these *karwanis* were the *banjaras* of succeeding centuries. As is clear from the Mughal sources, these were organized in groups and their headman was called *nayak*.

The other important group of merchants mentioned in our sources was that of the Multanis. Barani says that the long distance trade was in the hands of these merchants. They were engaged in usury and commerce (*sud-o-sauda*). It appears that the *sahas* and *Multanis* were rich enough to give loans even to nobles, who, according to Barani, were generally in need of cash. The *sahas* and *Multanis* were generally Hindu, but at least some Muslims were also among the Multani merchants. For example, Hamiduddin Multani was called by Barani as *malik-ut tujjar* (the great merchant). Besides these well defined merchant groups, others who had so chosen could take to trade. Thus, a Sufi (mystic) from Bihar became a slave-merchant trader between Delhi and Ghazni, and a number of pious men from Central Asia came to Delhi and became merchants.

Another important commercial class that emerged during the Sultanate period was that of the *dallals* (brokers). They worked as a link between the buyer and the seller and took commission from both the parties. Barani says that they were the 'masters of market' (*hakiman bazar*), they were instrumental in raising prices in the market. Alauddin Khalji used to consult them about the cost of production of every article in the market in order to fix prices. The reference to 'Chief' brokers

(*mihtran-i dallalan*) by Barani also suggests a somewhat well established guild of brokers, though the details are lacking. However, during Alauddin Khalji's reign these 'Chief brokers were severely dealt with. But by Firuz Tughlaq's reign, they seem to have regained their position. Firuz Tughlaq had abolished *dalaiat-i bazarha* (a tax on broker's license; a cess on brokers). Besides, even if a deal between the buyer and the seller failed to materialize, the brokers were not supposed to return the commission money. This also shows that during the Tughlaqs 'brokerage' became a fairly well-established institution.

Sarrafs were yet another mercantile group whose economic role was no less important than the brokers. As money changers, they were most sought after by the merchants, especially the foreign ones who came to India with their native coins. The *sarrafs* tested the metallic purity of the coins (indigenous and foreign) and established the exchange-ratio. They also issued bills of exchange (Hindi: ***hundi***; Persian: *suftaja*) or letters of credit, thereby acting as 'bankers'. The introduction of paper by the Turks into India accelerated the institution of bill of exchange. For all these troubles, the *sarraf* naturally charged his commission.

Thus, both the brokers and the *sarrafs* occupied a pivotal position in the commercial world of their period. They were the custodians of several basic economic institutions. Indeed, no merchant could have dispensed without their services.

12.2.3 Means of Transport

It appears that the goods were transported, both, by pack animals and on bullock-carts. Perhaps the share of the pack animals was more than the latter. Ibn Battuta mentions 30,000 mans of grains being transported on the backs of 3,000 bullocks from Amroha to Delhi. Bullock-carts were also used, according to Afif, for carrying passengers on payment. The pack-oxen were of course a cheap mode of transport travelling slowly, grazing as they went and moving in large herds, thus reducing the cost of transportation specially along the desert routes. Ibn Battuta describes that highways ran through the empire marked by minarets spaced at set distances. On the testimony of Shahabuddin al-Umari, the author of the *Masalik al-Absar*, we may infer that efforts were made to create conditions conducive to trade. Inns were built at each stage (*manzil*). In Bengal, Iwaz Khalji built long embankments as a safeguard from floods. Boats were employed for riverine routes to carry bulk goods, while large ships were used for seaborne trade.

Check Your Progress-1

1) Write short notes on the following:

   a) *Banjaras* .....

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   b) *Multanis* .....

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   c) 'Induced Trade' .....

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   d) Brokers and *sarrafs* .....

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2) List major overland trade routes of the 13th-14th centuries.

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3) Discuss the factors responsible for the expansion of trade under the Delhi Sultanate.

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12.3 TRADE AND COMMERCE UNDER THE MUGHALS

In this Section, we will discuss the inland trade at local, regional and inter-regional levels.

12.3.1 Inland Trade

As discussed in **Unit 10**, land revenue was realized in cash. This meant that the surplus agricultural produce was to be sold. Bulk of this produce was sold in the village itself. Most of this purchase was made by *banjaras* – the traditional grain merchants. They, in turn, carried it to other towns and markets. Tavernier, a French traveller who came to India in the second half of the 17th century, says that in almost every village could be bought rice, flour, butter, milk, vegetables, sugar and other sweets. In some villages even sheep, goat, fowl, etc. were available. According to him, every big village would have even a *sarraf* or money-changer. In addition, every locality had markets in the nearby towns where people from the surrounding areas would come to buy and sell things. Apart from these regular markets, there were *hats* and *penths* where people from the villages could exchange or buy things of their daily need. These *hats* or *penths* were periodic markets which were held on fixed days in a week. Sometimes there were *hats* for specific goods.

In these local markets, foodgrains, salt, simple tools and equipment of wood and iron for agriculture and domestic needs, and coarse cotton textiles were available.

These markets existed in all small townships and bigger villages. Banarsi Das writing about Jaunpur around the middle of the 17th century noted that, it had 52 *parganas*, 52 markets and 52 wholesale markets or *mandis*. This may suggest that almost every *pargana* had a market and a wholesale market.

It seems that a network of small and big markets viz., *hats*, *penths*, *mandis*, and the merchants in their individual capacities took care of the commercial activities in various localities. According to Tapan Raychaudhuri, individual village was probably part of a narrow circuit of exchange which encompassed the *mandis* mediating the distribution of commodities. These local trading centres were linked to bigger commercial centres in a region.

If we take Mughal provinces as regions, we notice that each of them had bigger commercial centres serving as nodal centres for all the commodities produced in various parts of the *suba*. Generally, these big towns also served as administrative headquarters of the *suba*. Patna, Ahmadabad, Surat, Dacca, Agra, Delhi, Lahore, Multan, Ajmer, Thatta, Burhanpur, Masulipatnam, Bijapur, Hyderabad, Calicut,

Cochin, etc. are a few examples of such trading centres. Our sources refer to these places as big commercial centres not only for the products of their respective regions, but also for serving as emporia for inter-regional and foreign trade. Each had a number of markets. Ahmadabad alone had as many as 19 *mandis* in and around it.

If income accruing to a town from commercial taxes levied in its market is any index of the size of the market, we may note that the income of Ahmadabad in the second half of the 17th century from commercial taxes was estimated at around 42,86,000 *dams* per annum. Similarly, cities like Delhi, Agra, Dacca and Lahore had separate markets for specific commodities. It is said that a noble's son in Delhi could spend one lakh of rupees in a day without making much ado. J. Linschoten writing about Goa around the end of the 16th century says auctions were held every day in the principle street of the city. He further adds that there is one street that is full of shops selling all kinds of silks, velvet, satin, works of porcelain from China, linen and all sorts of cloth. These cities had large number of merchants, brokers and *sarrafs*. There were a large number of *sarais* (rest-houses) in these cities for the convenience of merchants and travellers.

The products from nearby towns, suburbs and villages found their way to these centres. Patna, for example, had silk from Baikanthpur, cotton clothes from Nandanpur and Salimpur; fruits vegetables, opium and sugar from different other parts of the *suba*.

There were some towns that specialized in the trading of specific commodities: for example, Burhanpur (cotton mandi), Ahmadabad (cotton textiles), Cambay (gems market), Surat-Sarkhej (indigo), Agra for Bayana indigo, etc. All these commercial centres had mints which struck silver, copper and at some places gold coins.

12.3.2 Inter-Regional Trade

During the period of our study, trade between different regions of India was quite developed. Considering the time consuming and expensive mode of transport, such large scale inter-regional trade was phenomenally high in volume. Goods produced at one place were carried to long distance of hundreds and in some cases thousands of miles for the purposes of trade. The main commodities of large-scale interregional trade were foodgrains and various sorts of textiles. Luxury items, metals and weapons also occupied a prominent place in the long distance trade. It would not be possible for us to list the details of this trade in various kinds of commodities. Here we will give only a brief idea about some important commodities.

In the east, Bengal had well developed trade relations with all parts of India. The important trading centres of Bengal were Hugli, Dacca, Murshidabad, Malda, Satgaon, Tanda, Hijili, Sripur, and Sonargaon. Of these Hugli was one of the most prominent centres of trade.

Here products from Bihar, Orissa and some parts of Bengal were brought. Bengal supplied foodgrains to all parts of the country. Rice and sugar from Patna also was brought to the market of Bengal. Textiles of all sorts from Bihar, Benaras and Jaunpur could be bought in Bengal. Textiles produced in Lakhawar, a small town near Patna, were bought by merchants coming from all parts of India and even abroad. The Bengal textiles were available at Patna and as far as Ahmadabad in Gujarat. The large-scale silk manufacture in Gujarat and Bihar was completely dependent on the raw silk from Bengal. The silk cloth produced from this raw silk

found its way to all parts of India and abroad. Saffron from Kashmir was freely available in the markets of Bengal and Bihar. Bengal procured certain varieties of cotton chintz from as far a place as Burhanpur. Bengal also had trade links with Agra, Benaras and various other towns in the north.

In the west, Ahmadabad and Surat, the biggest commercial centres of the period, attracted textiles from south, north and the eastern parts of India. Here they were bleached and dyed for onwards sale. The silk manufactured in Gujarat from the raw silk of Bengal was again taken to the markets in the north. Gujarat received all its supply of pepper and spices from Malabar coast. Textiles were taken from Gujarat to Multan and Lahore. Gujarat received lac from Bengal; the Sarkhej indigo, famous for its quality, was also taken from Gujarat to all parts of India. Large scale trade carried on between the towns of Gujarat, Konkan and Malabar.

In the north, Agra received large quantities of silk from Bengal. Carpets and textiles from the Awadh region were taken to Gujarat, Bengal, Patna, Lahore and Multan. The saffron, wood products, fruits and woollen shawls, etc. from Kashmir found their way to the markets of north, west and east India. Kashmir supplied ice to Lahore, Multan, Agra and Delhi. Paper from Shahzadpur (near Allahabad) was taken to all parts of India. The famous indigo from Bayana (near Agra) was taken to Lahore, Multan and southern parts. The famous marble from Rajasthan was taken to all parts of the country, especially to Agra and Delhi. Foodgrains from north were taken to Gujarat.

Most of the trade from south was along the coast. Large quantities of Bengal indigo were sold in Masulipatam. Pepper and spices of the Malabar coast were taken to Bijapur, Coromandel, the Konkan coast, and the Gujarat tobacco from Masulipatam was taken to Bengal. Diamonds from Golconda mines were taken to all parts of India.

Minerals and metals which were produced at select places only were taken to all parts of Mughal India. Salt produced mainly in Rajasthan and Punjab was taken to all parts of north and south India. The coastal areas however produced it from sea water by evaporation. The main sources of iron were Gwalior in central India, Rajasthan, Punjab and Sind. Good quality steel was made in Cutch in Gujarat, some places in Deccan and South India. The bulk of copper was produced in Rajasthan. Bihar, Sind, Rajasthan and parts of north India were important places to procure saltpetre.

12.3.3 Exports and Imports

For centuries India had maintained trading relations with other countries. The pattern of trade and commodities underwent changes over the period. During the 16th and 17th centuries also India had a flourishing trade with a large number of foreign countries. The significant aspect of foreign trade during this period is the coming of the Europeans. This increased India's foreign trade manifold. Most of this trade was in the form of exports of Indian goods. The imports were very small. In this Section, we will take account of this overland foreign trade.

Exports

Textiles, saltpetre and indigo formed the major share of Indian exports. Other important itmes were sugar, opium, spices and other sundry commodities.

Textiles

Textile production in India had reached new heights during this period. The increasing exports contributed to the increase in production.

Before the coming of the Europeans, the main purchasers of Indian cotton textiles were the Mughals, Khorasanis, Iraqis and Armenians who carried them to Central Asia, Persia and Turkey. These goods purchased from all parts of India were taken by land route via Lahore. It is difficult to have an idea about the total volume of this trade. The Dutch and English concentrated on Indian textiles from the 17th century onwards. The main varieties of cotton fabrics were *baftas*, *Samanis*, calico, *Khairabadi* and *Dariabadi*, *Amberty* and *Qaimkhani* and muslin and other cotton cloths. Later on, various varieties of cotton textiles from Eastern coast were also procured. Chintz or printed cotton textiles were the most favourite items of export. Carpets from Gujarat, Jaunpur and Bengal were also bought.

Saltpetre

Saltpetre, one of the important ingredients for making gunpowder was much in demand in Europe. There are no references to its export in the 16th century. In the 17th century, the Dutch started exporting it from Coromandal. Soon the English also followed. During the first half of 17th century, the Dutch and the English were exporting moderate quantities from Coromandal, Gujarat and Agra. In the second half of the 17th century, its trade from Bihar via Orissa and Bengal ports started. Soon Bihar became the most important supplier.

After 1658, the English were procuring more than 25,000 maunds of saltpetre per year from the Bengal ports. The quantity increased after 1680. The Dutch demand was much higher (almost four times). The English demand for this commodity continued during the 18th century.

Indigo

Indigo for blue dye was produced in most of northern India – Punjab, Sind and Gujarat. The indigo from Sarkhej (Gujarat) and Bayana (near Agra) was much in demand for exports. Prior to its supply to Europe, large quantities of this commodity were exported to the Persian Gulf from Gujarat, and to Aleppo markets from Lahore.

The Portuguese started its export around the last quarter of the 16th century. Europe's demand was very large for dyeing woollen cloths. The Dutch and English started exporting it in the 17th century. Besides, merchants from Persia purchased it for Asiatic markets and Eastern Europe. The Armenians were also buying substantial quantities. In the 17th century, the Dutch, English, Persians, Mughals, and Armenians competed to procure the commodity. Around the middle of the 17th century, the Dutch and English were procuring around 25,000 or 30,000 maunds per annum. The demand continued to increase during the following years.

Other Commodities

Apart from the commodities listed above, a large number of other commodities were exported from India. Opium was bought by the French, the Dutch and the English Companies. The main sources of supply were Bihar and Malwa. The Bengal sugar was also taken in bulk by the Dutch and English Companies. Ginger was exported to Europe by the Dutch. Turmeric, ginger and aniseed (*saunf*) were exported by the Armenians. Large-scale trading operations were conducted between the ports of Gujarat and Indonesian archipelago. From here cotton textiles were taken in bulk to Indonesia and spices were brought in return. Brightly coloured cotton cloth and chintz from India were in great demand. A large part of this trade was later on taken by Coromandal from where textiles were exported to Indonesian islands and spices were imported from there.

Imports

As compared to exports from India, the imports were limited to only a few select commodities. Silver was the main item of import as it was brought to finance the purchases of European Companies and other merchants from different parts of Europe and Asia. Copper, too, was imported in some quantity. Lead and mercury were other important commodities brought to India. Silk and porcelain from China were imported into India by the English. Good quality wine, carpets and perfumes were brought from Persia. Some items like cut glass, watches, silver utensils, woollen cloths and small weapons from Europe were in demand by the aristocracy in India. Horses from Central Asia were imported in large number for military uses. The state was the main purchaser. Besides, India had trade relations with its immediate neighbours in the hill kingdoms. Musk was brought from Nepal and Bhutan to India where it was bought by the Europeans. Borax was also imported from Tibet and Nepal. Iron and foodgrains were supplied in return to these hill regions.

Check Your Progress-2

1) Describe the role played by *hats* and *penths* in the local trade.

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2) List ten places that worked as focal points for regional trade.

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3) Describe the inter-regional trade from other parts of country to Gujarat.

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4) List the main commodities of export to European markets.

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5) Write a brief note on indigo export from India. Also, list the main items of import in India.

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12.3.4 Trade Routes and Means of Transport

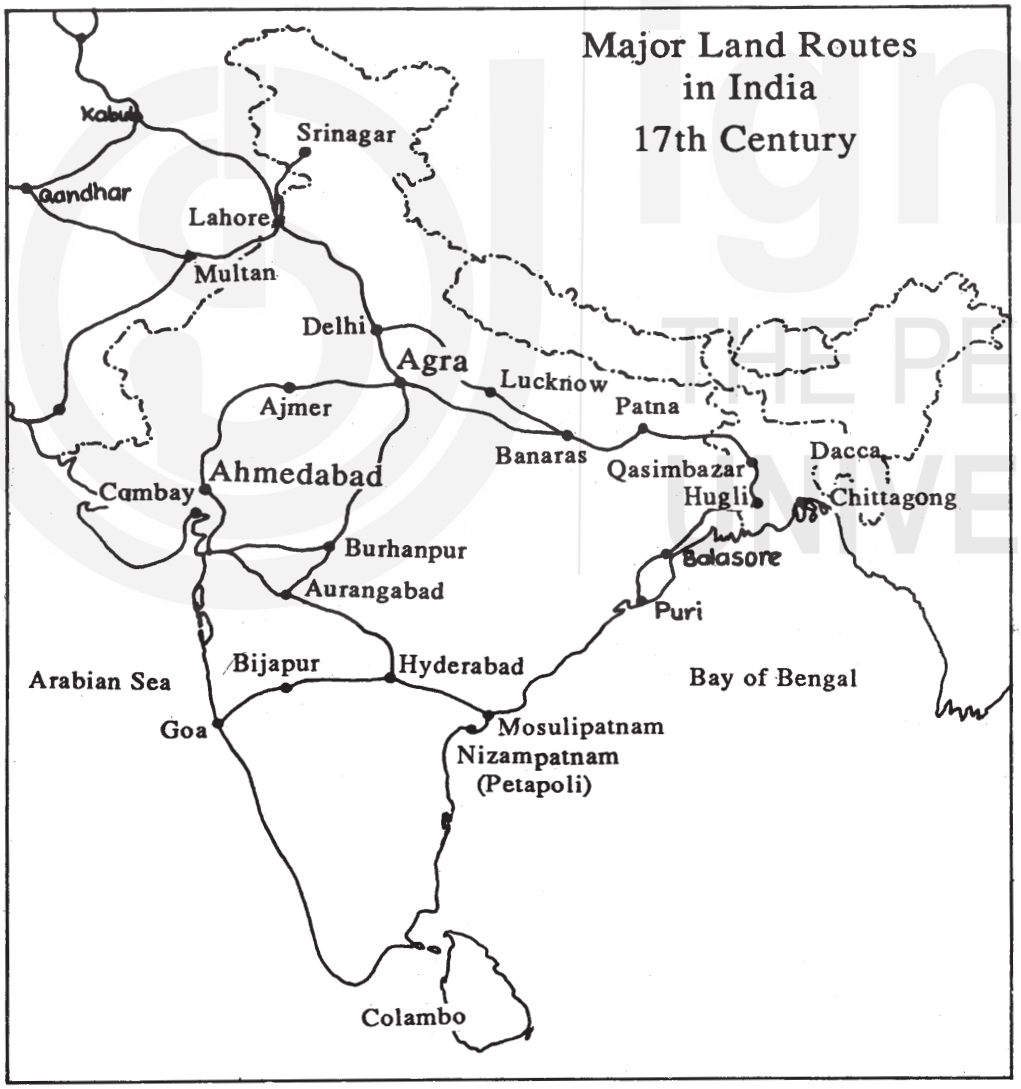
To meet the demands of the large volume of interregional and foreign trade, there was a need for a network of routes and a developed transport system. In this Section, we will take note of these two aspects which were crucial to the commercial activities.

Inland Trade Routes

It is to the credit of Mughal Emperors that we find an elaborate network of trade routes linking all the commercial centres of the Empire by the beginning of the 17th century.

Generally, the roads were looked after by the state or chieftains through whose territory they passed. In certain regions, these roads were obstructed by a large number of rivers which were crossed by fords or sometimes bridges had to be built. The fords and bridges were also built and maintained by the state or nobles. However, the condition of these roads during the rains was a bad commentary since long stretches became unusable during the monsoons. We have records from travellers lamenting the bad muddy condition of Surat-Burhanpur route during the rains. To mark the alignment of roads as also to indicate the distance travelled, the state provided towers known as *kosminars*. However, our sources tell us that only those routes which were traversed more frequently had *kosminars*.

All the prominent routes had *sarais* at short intervals. These *sarais* were used by the merchants and travellers as halting places. Apart from residential quarters, big *sarais* also provided to the itinerant traveller space for storage of goods.



Map 12.1: Major Land Routes in India in the 17th century

Source: EHI-04: *India from 16th to mid-18th Century*, Block 6, Unit 23, p. 31

To give you an idea of some important trade routes we have listed a few of them below:

Agra-Delhi — Kabul Route

Agra-Faridabad-Delhi-Sonepat-Panipat-Karnal-Ambala-Ludhiana-Fatehpur-Lahore-Rohtasfort-Rawalpindi-Shamsabad-Peshawar-Fatehabad-Kabul.

Agra-Burhanpur—Surat Route

Agra-Dholpur-Gwalior-Narwar-Sironj-Handiya-Burhanpur-Talner-Nandurbar-Kirka-Surat.

Surat-Ahmadabad-Agra

Surat-Broach-Baroda-Ahmedabad-Palampur-Jalore-Merta-Ludana-Hinduan-Fatehpur Sikri-Agra.

Agra-Patna-Bengal Route

Agra-Firozabad-Etawa-Sarai Shahzada-Allahabad-Banaras-Sahasram-Daud Nagar-Patna-Munger-Bhagalpur-Rajmahal-Dampur-Dacca.

The river route from Agra to Bengal ran almost parallel to the land route.

Routes for Foreign Trade

Foreign and Indian merchants traded through the overland routes.

Overland Route

The most frequented overland route during the medieval period was the one connected with the 'great silk route'. The 'great silk route' beginning from Beijing passed through Central Asia via Kashghar, Samarqand, Balkh and Kabul. Indian hinterlands were connected with this great route at Lahore. It passed through Multan, Qandahar (and then entered Persia via Yezd, and Isfahan), Baghdad, and after crossing the Euphrates it reached Aleppo. From there, the commodities were taken to Europe aboard ships.

Means of Transport

Here we shall confine our discussion to the means of transport in use for commercial purposes only.

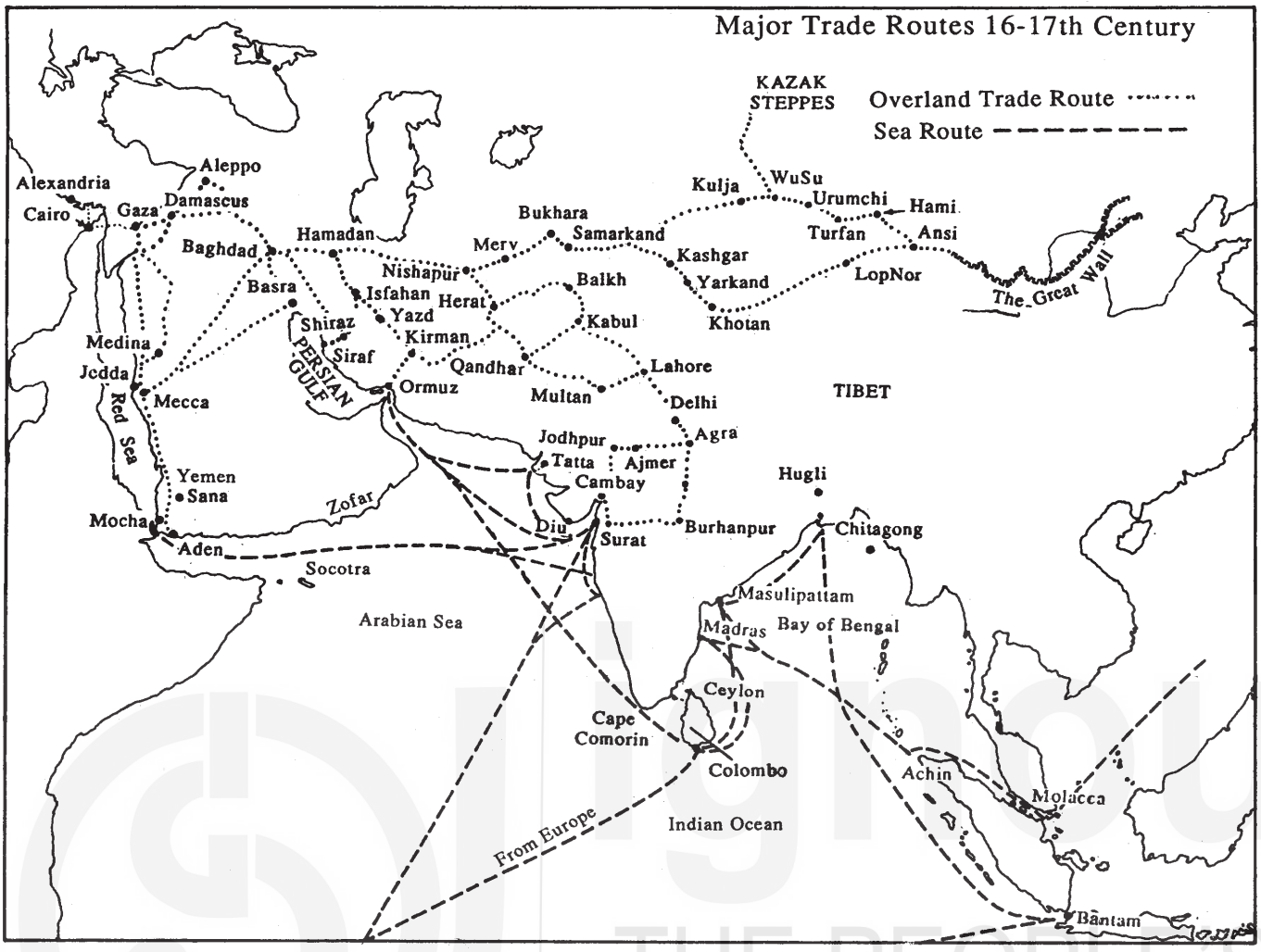
Land Transport

Oxen played a major role. They were used as pack animals for carrying load on their backs. We get references to grain merchants travelling with 10,000-20,000 pack animals in one *caravan* called *tanda*. Apart from the *banjaras*, other merchants also used them for transporting goods. Oxen-drawn carts were also used to transport goods. An ox could carry four maunds and a cart 40 maunds. The oxen which drew carts could travel 20 or 30 days without break, covering on an average 20-25 miles per day. Camels were commonly used in the western part of the country for carrying goods. They carried goods by land to Persia and Central Asia.

On high mountain regions, mules and hill ponies were used to carry heavy loads. Here human labour was also employed.

River Transport

Large number of rivers provided a network of river routes. The most frequent use of boats was in Bengal and Sind. There was regular traffic of goods between Agra and Bengal through boats. The boats carrying goods from Agra via Yamuna joined Ganga at Allahabad and went to Bengal. Contemporary sources refer to the plying of hundreds of boats between Agra and Bengal. Manrique noticed around 2,000 boats in anchor at Rajmahal. Our sources refer to around 40,000 boats in Sind.



Map 12.2: Major Trade Routes 16th-17th century

Source: EHI-04: *India from 16th to mid-18th Century*, Block 6, Unit 23, p. 32

Each '*patella*' (a kind of flat boat) plying between Patna and Hugli had a carrying capacity of around 130 to 200 tons of load. The other goods carrying boats had a capacity of 1,000 to 2,000 maunds each.

While moving in the direction of the flow of the river, it was much faster. Generally, it took less than half the time than by road. At the same time, river transport was cheaper also. For example, from Multan to Thatta the goods by river would cost Rs. 3/4 per maund, while for a shorter distance by land it would cost around Rs. 2 per maund.

12.3.5 Administration and Trade

The Mughal Emperors took keen interest in the trading activities. Their policy was to encourage trade and offer concessions to merchants from time to time.

Taxes other than Land Revenue

It is very difficult to ascertain the exact share of taxes other than land revenue in the total income of the Empire. Shireen Moosvi (1987) has calculated them to be around 18% and 15% for the *subas* (provinces) of Gujarat and Agra, while in rest of the *subas* it was less than 5% .

The main sources were tolls and levies on craft production, market levies, customs and ***rahdari*** (road tax) both on inland and overseas trade, and also mint charges. Apart from these, the state treasury received huge amounts by way of war booty, tributes and gifts from various quarters.

Almost everything sold in the market was taxable. The main articles taxed were clothes, leather, foodgrains, cattle, etc. Every time the merchandise was sold, a certain tax was to be paid. We do not have enough data to calculate the exact rate of taxation. The general accounts suggest that these taxes were quite harsh. Peter Mundy (1632) complains that the governor at Patna was harsh in realizing taxes, and even women bringing milk for sale were not exempted. Another contemporary writer says that every trader – from the rose-vender down to clay-vender, from the weaver of fine linen to that of coarse cloth – had to pay tax.

Apart from merchants, all the artisans also paid taxes on their products. *Katraparcha* was a tax levied on all sorts of cotton, silk and wool cloth. Indigo, saltpetre and salt were other important commodities subjected to taxation. In some cases, as in Punjab, the tax on salt during Akbar's time was more than double the prime cost.

Customs and Transit Dues

When the goods were taken from one place to another, a tax was levied. We have some information on the rate of custom levies. All merchandise brought through the ports was taxable. Abul Fazl says that during Akbar's time the duties did not exceed 2½ per cent. One early 17th century account suggests that at Surat the charges were 2½ per cent on goods, 3% on provisions and 2% on money (gold and silver). Towards the close of the 17th century, the customs ranged from 4% to 5%.

Aurangzeb levied separate transit taxes for separate groups. The rate fixed was 2½ from Muslims, 5% from Hindus and 3½ from foreigners. These rates were applicable throughout the Empire.

The articles valued at less than 52 rupees were exempted. For some time, Aurangzeb exempted the Muslims from all custom dues but after a short period the levy of 2½ was reimposed.

Inspite of the Emperor's instructions, the merchants were often charged more than the prescribed customs. We find the foreign merchants complaining about the custom dues. The English in 1615 complained that three separate duties were collected on goods brought from Ahmadabad into Surat. Time and again the English and the Dutch obtained *farmans* for the exemption of customs, but they were made to pay duties at the custom-houses. Apart from the Mughal territory, the autonomous chieftains also levied customs and duties on goods passing through their territories. Moreland says that it is not possible to define the burden on commerce in quantitative terms, since any one might claim a tax of any amount, even if goods had paid taxes in an adjoining jurisdiction.

Apart from customs, another tax called *rahdari* or transit tax was collected. This was a road-toll collected on goods passing through various territories. Though the amount at each place was small, the cumulative charge became heavy. Even the *zamindars* used to collect tools on goods passing through their territories.

According to one contemporary account of the 17th century (Khafi Khan), *rahdari* was considered illegal but large amounts were collected from merchants and traders. This tax was collected on river routes also.

We would like you to note that the policy regarding these taxes changed periodically. At times customs were exempted on certain items. For example, Jahangir abolished customs on the trade with Kabul and Qandahar. During the famine of Gujarat, tax on a number of commodities were remitted. Aurangzeb at his accession in 1659, abolished tolls and taxes on food stuffs.

We come across a number of royal orders and decrees abolishing taxes and customs on certain items. Almost all the European companies – the British, Dutch and French – procured royal orders for carrying merchandise without paying transit dues. Aurangzeb at one stage abolished all road tolls. According to the decrees of the Emperors, the state policy towards trade appears to be liberal but in actual practice the case was different.

Attitude of the Administration

The provincial governors, subordinate officers of the markets and customs officers were most of the time reluctant to enforce liberal policies. They were always looking for ways to fleece the merchants. The dues collected were often appropriated by officials themselves. The problem was further aggravated when the officials themselves indulged in trade. Nobles and high officials frequently tried to establish monopolies on certain articles of trade.

Prince Shuja, the son of Shah Jahan, had wide ranging trade interests. Mir Jumla, a high noble, tried to establish his monopoly in Bengal. The English first tried to resist it but finally surrendered agreeing to procure all saltpetre supply through him. Shaista Khan, another prominent noble, also forced the English to sell all their goods and silver to him in return of which they were assured free supply of saltpetre. Shaista Khan's daily income was estimated around Rs. two lakhs. His son, Buzurg Umed Khan, also had extensive interest in overseas trade.

Apart from these high placed nobles, subordinate officers also indulged in trade. Legally, the officers and nobles were not debarred from undertaking business activities. The problem was that competition was replaced by coercion and exploitation by those in power.

We come across a number of petitions and requests by foreign Companies, merchants and individuals complaining against official high-handedness. There are innumerable royal orders and decrees granting relief. Because of the poor means of communication and long distances the relief was delayed or at times not implemented at all. The struggle continued throughout the period. In spite of these hurdles, trade kept growing, attracting merchants from many countries.

Check Your Progress-3

1) List the main towns on Agra-Ahmadabad and Agra-Dacca route.

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2) Why the imperial Mughal policy regarding commerce was not fully implemented?

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12.4 PERSONNEL OF TRADE AND COMMERCIAL PRACTICES UNDER THE MUGHALS

Personnel of Trade

In the whole commercial process, certain specialized groups of merchants, brokers and *sarrafs* played their role at various levels. Large-scale trading operations

strengthened some of the existing practices and institutions and gave rise to new ones. Systems of banking, bills of exchange and lending of money were important ones. Trading partnership and insurance were also in vogue. Increasing commercial activities attracted a large number of people to these professions. However, the above trading groups were not necessarily divided into watertight compartments. At times the same person did two or more tasks at the same time. Here we will study them in separate groups according to the roles performed by them in trade and commerce of the period.

12.4.1 Merchants

Theoretically, Vaisyas were supposed to indulge in commercial activities, but in actual practice people from a wide range of background could and did participate in it. During the period of our study we notice that certain groups and castes dominated in particular regions.

Banjaras

In our sources we get innumerable references to the *banjaras* as a trading group who carried on trade between villages and between villages and towns in a region and even at inter-regional level. They were an important link for rural-urban trade. The *banjaras* confined their trading activities to some limited commodities like grain, pulses, sugar, salt, etc. They procured a number of animals (mainly oxen to carry the load) and moved from place to place buying and selling goods. Jahangir in his *Tuzuk-i Jahangiri* records: 'In this country the *Banjaras* are a fixed class of people, who possess a thousand oxen, or more or less, varying in numbers. They bring grain from the villages to the towns, and also accompany armies'. The *banjaras* generally moved with their families and household in groups. These groups moving together were called a *tanda*. Each *tanda* had its chief called *nayaka*. At times a *tanda* could have upto 600-700 persons (including women and children), each family having their oxen.

The *banjaras* were both Hindus and Muslims. Some scholars divide them into four groups on the basis of commodities they traded in: grain, pulses, sugar, salt, and wood and timber.

The *banjaras* operated in many parts of North India, but there were other similar traders known by different names. The Nahmardis was one such group of traders operating in Sind. Another such nomadic traders were the Bhotiyas operating between the Himalayas and plains.

Merchants in Different Regions

An important Vaisya sub-caste, that is, the Baniyas were the leading merchants in North India and Deccan. They belonged to the Hindu and Jain (mainly in Gujarat and Rajasthan) communities. Their counterparts were the Khatris in Punjab and Komatis in Golconda.

The word Baniya is derived from a Sanskrit word *vanik* meaning merchant. Many of the Baniyas carried surnames pointing to the place of their origin. The Agarwals came from Agroha (in present Haryana) and the Oswals from Osi in Marwar. Marwar gave probably the highest number of traders who are generally referred to as Marwaris. They were to be found in all parts of India and were the most eminent merchant group during the period of our study. There was a close caste bond between these merchants. They had their own councils.

Contemporary European travellers (Linschoten, 1583-89; Tavernier, 1656-67) marvelled at the skills of the Baniyas as merchants and had all praise for their

accounting and book-keeping. The Baniyas, unlike Banjaras, were involved in all sorts of trading activities. At the village level, they traded in grain and other agricultural produce. They also acted as moneylenders, giving loans to peasants and other people including state officials and nobles. In towns they dealt in grain, textiles, gold, silver, jewels, spices and sundry other commodities. Some of them possessed assets of millions of rupees. They owned ships also. The community as a whole was known for simplicity and frugality.

In the region of Punjab, the Khatris were a major trading community. Guru Nanak, the founder of Sikh religion, was also a Khatri. Many of them were converted to Islam. This community had in its fold Hindus, Muslims and Sikhs.

The Multanis were an important trading community of Delhi, parts of Punjab and Sind in the 13th-17th centuries. We get occasional references to them in the period of our study also.

The Bohras were important merchants of Gujarat. They were mostly Muslims. They were an urban community mainly based in Gujarat and other western parts. Apart from Gujarat, they had some settlements in Ujjain and Burhanpur. The Bohra merchants like Mulla Muhammad Ali and Ahmad Ali had assets of millions of rupees. Among Muslims, other merchant communities operating on the western coast were Khojahs and Kutchi Memons of Gujarat.

South India

In the southern part of the sub-continent, various merchant groups played a prominent role. The Chetti was one such group. This term is derived from Sanskrit *shreshthi* (*seth*). Perhaps the Chetti were very wealthy merchants. The merchants along the Coromandal coast up to Orissa were known as Kling. The Komatis were the merchants belonging to a trading caste. They mainly worked as brokers for textiles and were suppliers of various products from hinterland to the port towns on southern coast. They were mainly Telugu speaking.

Like the Chetties another merchant group called Chulias, they were also divided into four sub-groups. Of these, the Marakkayar were the wealthiest merchants dealing in the coastal and South East Asian trade. This was a very mobile group and many had settled in Ceylon, the Maldives, Malacca, Johore, Javanese coast, Siam and Burma. In India, they were most active in South Coromandal, Madura, Cuddalore, Porto Nova, Nagole, Nagapatnam, Koyalpatnam etc. They mainly dealt in textiles, arecanuts, spices, grain, dried fish, salt, pearls and precious metals.

Chrutian Paravas were active in trade from Coromandal to Malabar and Ceylon. They specialized in coastal trading and brokerage.

Among the Muslims, the Golconda Muslims were involved in overseas shipping. They were prominent in south of Madras and were the main merchants in the Bay of Bengal region. The Mopilla Muslims of Indo-Arab origin were also important merchants in the region.

Some Gujarati merchants had also established themselves in the Madras region.

Foreign Merchants

We get a large number of references to the presence of foreign merchants in almost all commercial centres of the period. Among other foreign merchants, the Armenians were the most prominent. They dealt in all sorts of commodities from textiles to tobacco. They were settled in Bengal, Bihar and Gujarat. The Khorasanis, Arabs and Iraqis also frequented Indian markets.

12.4.2 Moneylenders and *Sarrafs*

In large parts of Northern India, the traditional merchants played a dual role as traders as well as moneylenders. In villages we hear of traditional Baniya lending money to individual peasants to pay land revenue. In towns and bigger places also, merchants acted as moneylenders.

Another category among the personnel of trade which played a significant role was that of the *sarrafs*. They performed three distinct functions: (i) as money-changers; (ii) as bankers; and (iii) as traders of gold, silver and jewellery. The first two functions need some elaboration.

As money-changers, they were considered as experts in judging the metallic purity of coins as well as their weight. They also determined their current exchange rate. According to Tavernier, 'In India, a village must be very small indeed if it has not a money changer, called 'Cherab' (*Sarraf*), who acts as banker to make remittances of money and issue letters of exchange'.

The *sarraf* was also a part of Mughal mint establishment. Every mint had a *sarraf* who would fix the purity of bullion. He also verified the purity of coins after minting. As bankers, they would receive deposits and give loans on interest. They used to issue bills of exchange or *hundis* and honour the ones issued by others.

12.4.3 Brokers

Dallals or brokers as specialized mercantile professional trading group seem to have been active in the wake of the Turkish conquest of North India. They worked as middlemen in various commercial activities and transactions. With increasing inter-regional and foreign trade, they became crucial. Merchants from foreign lands and distant regions heavily depended on them. According to A. Jan Qaisar, the foreign merchants – who were unacquainted with the centres of production, pattern of marketing and language – had to depend on the native brokers for their trading transactions. The need for brokers in India was mainly due to (i) centres of production for the same commodities were scattered all over the country; (ii) individual output of these centres was small (some centres specialized in particular commodities only), and (iii) large number of buyers competing for the same commodities in the same markets. We get innumerable references to the transactions done through brokers. The English East India Company records refer to brokers being employed at their different factories. Fryer (late 17th Century) says that 'without brokers neither the natives nor the foreigners did any business'. Ovington (1690) also commented that, 'For buying and selling Company's goods brokers are appointed who are of the *Bania* caste and are skilled in the rates and value of all the commodities'.

We hear from Manrique (1640) that there were around 600 brokers and middlemen at Patna. Their number might have been much larger in bigger commercial centres like Surat, Ahmadabad, Agra and other coastal towns.

Indian brokers were to be found in foreign ports also. They were operating at Gombroon (Bandar Abbas), Basra, Bandar Rig, etc. Sometimes, the whole family worked as brokers in partnership. Bhimji Parak, a prominent broker, had a joint business with his brothers. He had 8 shares, Kalyandas 5, Kesso and Vithaldas 4 each.

A. Jan Qaisar has divided brokers into four categories: (i) those employed by Companies or merchants, (ii) those who worked for several clients, (iii) those who worked on an ad-hoc basis as broker-contractors, and (iv) state appointed brokers at commercial centres to register sale and purchase of articles.

The brokers operating independently can be divided in various groups on the basis of their areas of partnerships. Some dealt only in one specific commodity like silk, saltpetre, cotton, textile, indigo, etc. Others dealt in more than one commodity. Some worked as sub-brokers or under brokers for a well-established broker.

Brokers' fees or commission was not strictly fixed. It depended on the commodity and the efforts of the broker to strike the deal or the labour involved in procuring the commodity. In ordinary dealings, the brokerage was 2% of the value of transaction, 1% was charged from each of the parties (buyers and sellers).

Brokers who were in regular employment were paid fixed salaries and also some commission in some deals. We do not have much information on their total emoluments. However, a few references in English Company records show the salaries of their brokers between Rs. 10 and Rs. 38 per month.

Besides helping their clients in procuring and selling goods, the brokers played a key role in the organization of production. Most of the money advanced (dadni) to the artisans were made through brokers.

12.4.4 Commercial Practices

In this Sub-section, we will discuss various commercial practices employed in trade and commerce during this period.

Bills of Exchange (*Hundi*)

During this period *hundis* or bills of exchange became an important form of monetary transaction. *Hundi* was a paper document promising payment of money after a period of time at a certain place. To begin with, the practice started because of the problems involved in carrying large amounts of cash for commercial transactions. The merchants interested in carrying cash to a particular place would deposit it with a *sarraf* who would issue a *hundi* to the merchant. The merchant was to present it to the agent of the *sarraf* at his destination and encash it. This started as a safe and convenient method of transferring money. In due course, *hundi* itself became an instrument of transaction, which could be presented against a transaction. It could also be freely bought or sold in the market after endorsement.

According to Irfan Habib, 'the negotiability of *hundi* led to a situation in which large number of *hundis* were simply drawn and honoured against other *hundis* without the intermediation of actual cash payments'. In this process, it became a medium of payment.

The use of *hundi* was so widespread that even the imperial treasury and state were using it. In 1599, the state treasury sent Rs. 3,00,000 to the army in the Deccan through a *hundi*. Tributes paid by Golconda (Rs. 10,00,000) and Ghakkar chief (Rs. 50,000) to the Mughal Emperor were also transferred through *hundis*.

We get quite a few references where provincial officials were instructed to transfer the revenue through *hundis*. Even the senior nobles would take the help of the *sarrafs* to transfer their personal wealth. Muqarrab Khan, the governor of Bihar, when transferred to Agra, gave Rs. 3,00,000 to the *sarraf* at Patna to be delivered at Agra.

Many big merchants also issued *hundi*. Such merchants and *sarrafs* had their agents at important commercial centres. At times, members of one family (father, son, brother, nephew) worked as agents for each other. Big firms had their agents even outside the country.

A commission was charged by the *sarrafs* on each *hundi*. The rate of exchange depended on the rate of interest prevalent and the period for which it was drawn. The period was calculated from the date of issue to its presentation for redemption. The rate fluctuated as it also depended on the availability of money at the time of issue and maturity. If money supply was good, the rate would drop. In case of scarcity, the rates used to rise. According to Irfan Habib, 'a sudden spurt of payment in any direction might create pressure upon the *sarrafs* for cash at one place, while leaving more in their hands at another, a situation that they could rectify by discouraging remittances from the former to the latter and encouraging reverse remittance by modifying the exchange rate'.

To give you a rough idea, a few rates are provided. In normal times 1½ % was charged for *hundis* from Patna to Agra and 7%-8% from Patna to Surat. For the *hundi* drawn at Ahmadabad for Burhanpur 7¼ % was charged in 1622.

12.4.5 Banking, Usury, Rate of Interest and Partnership

Banking

The *sarrafs*, apart from issuing bills of exchange, also received money for safe deposit. This was returned to the depositor on demand. The depositor was paid some interest on his deposits. The rate of interest payable to depositors kept changing. The rates available for Agra, for 1645 and Surat for 1630 works out to be approximately 9½ % per annum. The bankers in turn would give money on loan to the needy on a higher rate of interest. We get a number of references where state officers gave money from treasury to these bankers and kept the interest with them. Tapan Raychaudhuri writing about the Jagat Seth of Bengal says that, 'their rise to financial eminence was partly due to the access they had to the Bengal treasury as a source of credit'.

Sujan Rai (1694) says that the *sarrafs* who accepted deposits were honest in dealings. Even strangers could deposit thousands for safe keeping and demand it at any time.

Usury and Rate of Interest

Moneylending for personal needs and commercial purposes was an established practice. Much of trading was conducted through the money taken on interest. Generally, the *sarrafs* and merchants both indulged in moneylending. Sometimes the moneylenders were called *Sah*, a distinct category. The loans were taken for various purposes. The money was taken on loan by peasants for paying revenue and repaid at harvest. Nobles and *zamindars* would take it for their day-to-day expenses and repay it at the time of revenue collection. Moneylending for business purposes was also very common.

The rate of interest for smaller loans is difficult to ascertain. It depended mainly on the individual's need, his credit in the market and his bargaining power. Tapan Raychaudhuri shows that peasants took loans at a high rate of 150% per annum in Bengal in the 18th century. For commercial loans, the rate of interest differed from one region to another. Our sources generally refer to interest rates per month. Irfan Habib says that the rate of interest expressed for the month suggests that the loans were generally fixed for short duration.

The rate of interest for Patna in 1620-21 is given as 9% per annum, while around 1680 it seems more than 15%. At Qasimbazar (Bengal) the rate of interest in 1679 is given as high as 15% per annum while the rates for the corresponding period for Madras (8% per annum) and Surat (9% per annum) were much less. The English Factory kept a vigilant eye on the interest rates and would supply

money to their factories in various regions after taking loans from the places where interest was lowest. The rates at Agra and Surat during the 17th century ranged between 6% and 12% per annum. On the Coromandal coast much higher rates (18% to 36%) seem to have prevailed.

The difference in interest rates in various regions suggest that the integration of financial market had not taken place.

Partnership

In partnership, the merchants pooled their resources to carry on trade. Banarsidas described his partners in jewels trade during 1611-16. Even brokers at times carried joint ventures.

12.4.6 Insurance

Another important commercial practice prevalent in India on a limited scale was that of insurance or *bima*. In many cases, the *sarrafs* used to take responsibility for the safe delivery of goods. The English Factory Records also refer to the insurance of goods, both inland and overseas. At sea, both the ship and the goods aboard were insured. The rates for insurance are also quoted in Factory Records. By the 18th century, the practice was well-established and widely prevalent. The rates are also available for different goods for different destinations. The rates of insurance for sea voyages were higher than goods going through land.

12.5 MERCHANTS, TRADING ORGANIZATIONS AND THE STATE

We have already discussed the taxes charged by the state on trading activities. The merchants were also charged customs and toll taxes on the movements of goods. However, the income from these sources was very small as compared to the land revenue.

Since towns were the centres of commercial activities, the administrative officers there looked after the smooth conduct of trade. The maintenance of law and order and providing peace and security were important for better business environment. This was the responsibility of the *kotwal* and his staff in the towns.

The rules and laws governing the day-to-day business were generally framed by the business community itself. Merchants had their own guilds and organizations which framed rules. We get references to such organizations in our sources. In Gujarat, these were called *mahajan*. In the first quarter of the 18th century, we get evidence of 53 *mahajans* at Ahmadabad. The *mahajan* was the organization of traders dealing in a specific commodity in a particular area irrespective of their castes. The term *mahajan* was at times used for big merchants also probably because they were the heads of their organizations. There were separate caste based organizations as well.

The most influential and wealthy merchant of the town was called the *nagar seth*. Sometimes treated as a hereditary title, *nagar seth* was a link between the state and the trading community.

If there were certain disputes among the merchants, the *mahajans* resolved them. Generally, their decisions were respected by all. The Mughal administration also recognized these *mahajans* and took their help in matters of conflicts and disputes or to seek support for administrative policies. The merchant organizations were strong and fought against high-handedness or repressive measures of the officers of towns and ports. We get a number of references where traders' organizations

gave calls for *hartal* (closing business establishments and shops) against administrative measures. The huge loss of revenue made administrators respond to the protests. One such serious conflict arose in Surat in 1669. A large number of businessmen along with their families (a total of 8,000 people) left Surat to protest against the tyranny of the new governor. They settled at Broach and sent petitions to Emperor Aurangzeb. The trading activities in the town came to a halt. The Emperor quickly intervened and the problem was resolved.

In 1639, Shah Jahan invited Virji Vohra, one of the biggest merchants of Surat, to enquire into the grievances of merchants against the governor of Surat. During the war of succession among Shah Jahan's sons, Murad raised Rs. 5,50,000 through Shantidas, the *nagar seth* of Ahmadabad. After Murad's death, Aurangzeb owned the responsibility for paying it.

While merchants kept away from court politics, the nobles did venture into trading. Many big nobles used their official position to corner the profits from trade. Shaista Khan tried to monopolize a number of commodities, especially saltpetre. Mir Jumla, another prominent noble, was a diamond merchant. A number of subordinate officers at the local level also indulged in business activities using coercive methods.

Check Your Process-4

1) Describe the role of *banjaras* in inland trade under the Mughals.

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2) Name four merchant groups operating in different parts of India.

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3) What different roles were performed by *sarrafs*?

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4) Who were brokers? List different categories of brokers.

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5) Write a brief note on:

a) *Hundi* .....

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b) Usury .....

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c) Insurance .....

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d) Trading Organization of Merchants .....

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12.6 SUMMARY

In this Unit, you have studied the fact that with the coming of the Turks trade and commerce increased. You have also come to know about the main overland trading routes. We have discussed the main articles of imports and exports, means of transport and above all the nature and functions of the existing commercial classes – the *karwanians*, brokers and *sarrafs*. We have also reviewed the currency system under the Delhi Sultanate and the Mughals. During the closing years of the 15th century, a new factor – the Portuguese – was also introduced with the discovery of new route via Cape of Good Hope that gradually transformed India's trading relations with the world in the coming year. This will be discussed in the next Unit.

Here we have also discussed inland and foreign trading activities under the Mughals. At the local and regional level, the commercial or trading transactions were confined to foodgrains, coarse cloth, salt, equipment of daily use and some other commodities. It was mainly conducted through *hats* or *penths* – the periodic markets. Small town markets also played a role. We notice that in such trading the flow of commodities was mainly from the village to towns. Different regions of India had developed trade links. Commodities from one region to another were carried through a network of land and river routes. The foreign trade balance was favourable to India. Large-scale export of Indian goods was carried to various parts of Asia and Europe. The main articles of export were textiles, indigo, saltpetre, sugar, etc.

The coming of English and Dutch gave an impetus to foreign trade, especially indigo and saltpeter (for details see **Unit 13**). Imports to India were limited. The main articles of import were silver, woollen cloth and various luxury items. The Mughal administration levied certain taxes and customs on the items of trade. Trading ventures of the Mughal nobles and high ranking officials at times created problems for merchants and European companies.

In this Unit, we have also studied the activities of a number of specialized groups concerned with trade. The *banjaras* played their role at regional and inter-regional levels. They, with a large number of pack animals, moved in groups buying and selling mainly grain, salt and sugar, etc. In different regions of the country various merchant groups and castes operated. Prominent Indian merchant groups were the Baniyas, Bohras, Khatris, Chettis, etc. The English, Dutch, French, Portuguese, Armenians, Khurasanis and Iraqis were important foreign merchants. Brokers, *sarrafs* and moneylenders were specialized groups. System of bills of exchange and money lending was well developed. The interest rates were quite high. Merchant guilds and organizations were also well established. They generally made rules and regulations for the trading and commercial activities.

12.7 KEYWORDS

Hundi	Bills of exchange or letters of credit
Induced Trade	Trade resulting from the compulsions of land revenue system
Rahdari	Transit tax
Sarraf	Money changers

12.8 ANSWERS TO CHECK YOUR PROGRESS EXERCISES

Check Your Progress-1

1) See Section 12.2
2) See Sub-section 12.2.1
3) See Section 12.2

Check Your Progress-2

1) See Sub-section 12.3.1
2) See Sub-section 12.3.1
3) See Sub-section 12.3.2
4) See Sub-section 12.3.3
5) See Sub-section 12.3.3

Check Your Progress-3

1) See Sub-section 12.3.4
2) See Sub-section 12.3.5

Check Your Progress-4

1) See Sub-section 12.4.1
2) See Sub-section 12.4.1
3) See Sub-section 12.4.2
4) See Sub-section 12.4.3
5) See Sub-sections 12.4.4 and 12.4.5

12.9 SUGGESTED READINGS

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12.10 INSTRUCTIONAL VIDEO RECCOMENDATIONS

Delhi Sultanate: Industry, Trade and Commerce | Vidya-mitra
https://www.youtube.com/watch?v=TCbkw8Gl0Ag

Talking History |11| Delhi: The Trade Routes of Capital | Rajya Sabha TV
https://www.youtube.com/watch?v=UDMM20q2kK4

UNIT 13 OCEANIC TRADE*

Structure

13.0 OBJECTIVES

In this Unit, you will study the expansion of oceanic trade under the Delhi Sultanate. Later under the Mughals, several interrelated developments occurred in this trading nexus.

After going through this Unit, you should be able to:

- understand the pattern of oceanic trade under the Delhi Sultanate and the Mughals,
- know about the major merchant groups involved in these trading activities,
- understand that the opening of the sea-route between Europe and Asia marked a period of great importance,
- examine the fact that the monopoly over sea-borne trade was introduced by the Portuguese during this period,
- analyze the role of Portuguese in the Indian Oceanic trade – including the financial mechanism and nature of this trade,
- recognize the change introduced in the structure of Indian Oceanic trade by the ***cartaz*** system,

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- list the main commodities of import and export,
- list the important ports comprising this network of trade,
- examine the pattern of India's seaborne and coastal trade, and
- discuss the impact of arrival of European companies in the Indian Ocean region.

13.1 INTRODUCTION

The Indian overseas trade can be studied in two segments: coastal trade and high-seas trade. The former was conducted with two maritime zones of the Indian Ocean. These were the western coast and the eastern coast of India. The western coast of India stretched from Sind to Malabar, was linked with the ports of the Persian Gulf, Red Sea and East Africa. The eastern coast stretched from Bengal to Coromandel but including the Malabar ports, was linked with the South-east Asia and China (Haider, 2011: 164). The three principal items of export from India in the 14th and 15th centuries were spices, textiles and indigo, as mentioned in the previous Unit. In addition to the vibrant merchant communities of India engaged in these trading networks such as the **Bohras** of Gujarat, foreign merchants were settled at different coasts of India such as Arab merchants from Cairo who were settled in Gujarat. Ibn Battuta also found large communities of Chinese merchants settled in Malabar ports.

The late medieval and early modern period of Indian history was marked chiefly by the arrival of European trading companies as well as private traders into the Indian Ocean trade. Other defining features of the Indian Oceanic trade during this period were: the extensive precious metal flows, trade in Indian textiles, and the nexus between state and maritime trade (Prakash, 2011: 1). This region was marred by its unique trading system which is not only confined to the economic realm, but has also left an impact on the social and cultural ethos of the people thriving here.

In this Unit, we are confined to a discussion on the nature of trade carried in the Indian Ocean region under the rule of Delhi Sultanate and the Mughals. This shall include the important commodities of trade, i.e. imports and exports; the mechanisms of conducting this trade via established trading networks and some that were being formed; the merchant communities participating in this trading network; arrival of European and private trading companies in the Indian Ocean; the nexus between state and communities engaged in this trade; and a sample study of the Portuguese Advent in the Indian Oceanic trade. This study shall enable us to understand the larger nature of Oceanic trade during the period of our study.

13.2 OCEANIC TRADE UNDER THE DELHI SULTANATE

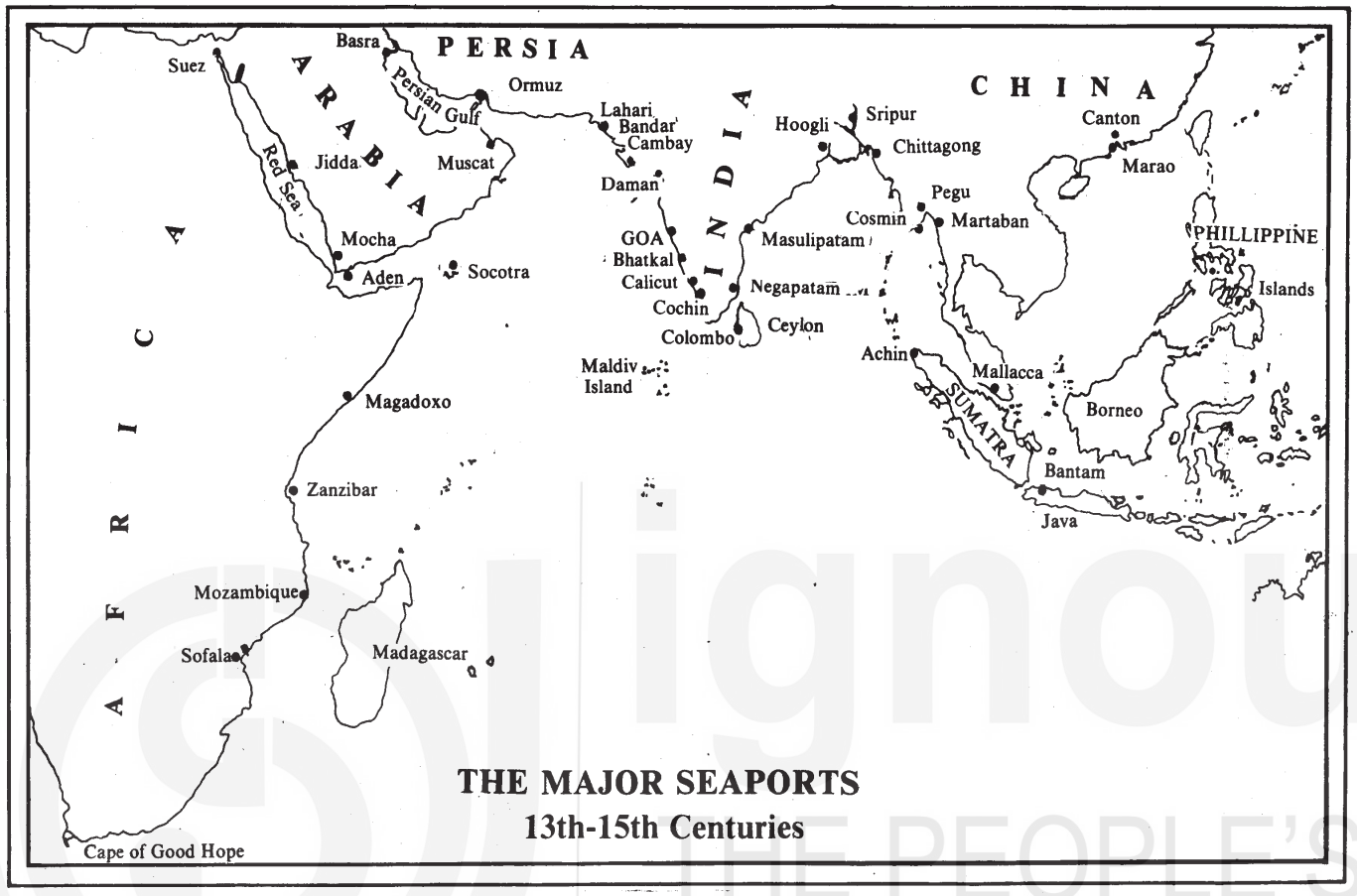
During the Sultanate period, overseas trade was in a flourishing state.

13.2.1 Seaborne and Coastal Trade

Seaborne Trade

The Khalji annexation of Gujarat must have enlarged trade relations between the Delhi Sultanate and the Persian Gulf and the Red Sea. Gujarat was connected with the Persian Gulf as well as the Red Sea. Hormuz and Basra were the chief ports for the ships passing through the Persian Gulf, while the ports of Aden, Mocha and Jedda along the Red Sea were important for Gujarat. Through these

ports, commodities moved on to Damascus and Aleppo, on the one hand, and Alexandria on the other. Aleppo and Alexandria opened upto the Mediterranean Sea with linkages to Europe. Merchandise of Gujarat were also carried towards the East – the port of Malacca situated at the Malacca straits and Bantam and Achin in the Indonesian archipelago.



Map 13.1: The Major Seaports in the 13th-15th century

Source: EHI-03: *India: From 8th to 15th Century*, Block 6, Unit 21, p. 26

A European traveller Tome Pires, who came to India in the first decade of the 16th century, comments on the trade of Cambay as follows:

> Cambay chiefly stretches out two arms: with her right arm she reaches out towards Aden, with the other towards Malacca...

Pires further says:

> Malacca cannot live without Cambay, nor Cambay without Malacca, if they are to be very rich and very prosperous. If Cambay were cut-off from trading with Malacca, it could not live, for it would have no outlet for its merchandise.

The main export from Gujarat to Malacca was the coloured cloths manufactured in Cambay and other Gujarat towns. These cloths were in demand in these places. In exchange, the Gujarati merchants came back with spices grown there. This pattern of 'spices for coloured cloths' continued even after the Portuguese advent in the Asian waters.

Varthema, an Italian traveller, who came to India during the first decade of the 16th century says that about 300 ships (annually?) of different countries come and go from Cambay. He adds that about 400 'Turkish' merchants resided at Diu.

The Il Khanid court historian Wassaf reports that 10,000 horses were annually exported to Ma'bar and Cambay from Persia. The Broach coin-hoards containing the coins of the Delhi Sultans along with the gold and silver coins of Egypt,

Syria, Yemen, Persia, Genoa, Armenia and Venice further testifies to large-scale overseas trade.

The ports of Bengal had trading relations with China, Malacca and Far East. Textiles, sugar and silk fabrics were the most important commodities exported from Bengal. Varthema noted that about fifty ships carried these commodities annually to many places, including Persia. Bengal imported salt from Hormuz and sea-shells from the Maldive islands. The latter were used as coins in Bengal, Odisha and Bihar.

Sindh was yet another region from where seaborne trade was carried on. Its most well-known port was Daibul. This region had developed close commercial relations with the Persian Gulf ports more than the Red Sea zone. Sindh exported special cloths and dairy products. Smoked-fish, too, was its specialty.

Coastal Trade

It was natural for the coastal trade to flourish right from Sindh to Bengal, touching Gujarat, Malabar and Coromandel coasts in between. This provided an opportunity for exchange of regional products along the coastal line distinct from inland inter-regional trade.

13.2.2 Imports and Exports

The two principal items of import were: (a) horses – that were always in demand for cavalry since superior horses were not bred in India and Indian climate was not well-suited to Arabian and Central Asian horses. They were primarily imported from Zofar (Yemen), Kis, Hormuz, Aden and Persia; (b) precious metals viz. gold and silver, especially silver that was not at all mined in India but for which there was a high demand not only for metallic currency but also for fashioning luxury items. Brocade and silk stuffs were imported from Alexandria, Iraq and China. Gujarat was the major centre from where the luxury articles from Europe used to enter.

The Sultanate India mainly exported grain and textiles. Some of the Persian Gulf regions totally depended on India for their food supply. Besides, slaves were exported to Central Asia and indigo to Persia along with numerous other commodities. Precious stones like agates were exported from Cambay.

13.2.3 The Portuguese Advent

In spite of brisk trading activities, Indian merchants' share in the overseas trade was negligible. Only a small section of Gujarati Banias, Chettis of the South and domicile Indian Muslims used to take part in this large trading activity. Though the Indian Ocean trade throughout the medieval period was the preserve of Muslims, Arabs, Persians, Indians and to a lesser extent, Chinese, trade was mainly in the hands of the Arab Merchants for more than half a millennium. They were the main body of merchants operating from the Persian Gulf, although some foreign Muslim merchants were also settled in the region (Indian Ocean: ***bahr al-Hind*** in Arabic). During the early medieval period, the Arabs had taken possession of all the crucial gold producing and gold collecting areas of their feeder routes. They brought vast amounts of gold and other precious metals into circulation in these trading networks. The phenomenon of armed trading, control of sea passages and other forms of piracy were known in the Indian Ocean long before the arrival of the Portuguese.

With the landing of the Portuguese at Calicut in CE 1498 after the rounding of the Cape of Good Hope, a new dimension was added to the Indian seaborne trade, that

is, the 'element of force' (for details see **Section 13.4**). On account of better ships armed with cannons, the Portuguese soon imposed their commercial hegemony over the trading world of Asia, including the Indian seas, especially in Western part. This curtailed the Arabs' share of the Indian trade, though they survived in the Eastern part, especially at Malacca along with the Indian merchants.

The Portuguese took Goa in 1510 which became their headquarters, Malacca fell in their hands in 1511. Hormuz in 1515, and Bassein and Diu in 1534 and 1537 respectively. Goa, under their patronage, soon developed as a major centre for import and export. The Portuguese well understood the strategic importance of Goa, which in their opinion, was essential to the maintenance of their position in India. But the Portuguese possession of Goa was unfavourable to other Western Indian ports. Tome Pires had rightly observed that the Muslim rulers of the Deccan and Gujarat had 'a bad neighbour in Goa'. Many ports on the **west coast** fell into decay during the hundred years of the Portuguese domination in the Indian waters. This happened as a result of the aggressive policies of the Portuguese:

i) they controlled the sea-routes,

ii) controlled the type and volume of cargo carried by other merchants, and

iii) they introduced the system of issuing *cartaz* (from Persian *qirta* = paper sheet) which was a kind of permit to ply ships in the Asian waters without which the ships were liable to be confiscated and the cargo plundered. A fee was charged for issuing a cartaz.

No wonder, then, all these policies adversely affected the seaborne carrying trade of the Indians as well as of the Arabs (details on the nature of Portuguese trade are discussed in **Section 13.4**).

Check Your Progress-1

1) Write a short note on the role of Arab merchants in the Indian Oceanic trading network.

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2) List the major items of trade during the 13th-14th centuries.

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3) Discuss the nature of oceanic trade, under the Delhi Sultanate, before the advent of the Portuguese.

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13.3 OCEANIC TRADE UNDER THE MUGHALS

The significant feature of the period was the entry of few prominent European countries in the trading arena of India. The Portuguese had already settled in the Western parts of India by early 16th century. In the 17th century, the French, Dutch and English also participated in large-scale trading activities.

A number of uncertainties and risks were involved in long-distance sea voyages. These uncertainties gave rise to a new practice called 'avog' or bottomry. It was a type of speculative investment which was quite popular during the period of our study. In Bottomry, money was lent at high rates ranging between 14 to 60 per cent. The money was lent to be invested in a cargo for a particular destination. The rate of interest depended on the risks involved. The lenders were to bear all the risks of voyage.

13.3.1 Coastal Trade

Because of long distances and slow moving transport system interregional trade was also conducted through the sea route involving large number of coastal areas. This coastal trade was most prominent on the western coast. The eastern coast also had substantial trading operations. The trading operations on the two coasts were organized in different ways. Piracy on the western coast was rampant. As a result, most of the traffic here was conducted through convoys. While on the eastern coast small boats plied throughout the year.

On the western coast between May and September the merchant boats in convoys under protection plied two or three times between Goa and Cochin and Goa and Cambay. The Cambay convoy would have around 200-300 boats and ships of various sizes. They carried stuffs like wheat, oil, pulses, sugar, textiles and miscellaneous other items. The convoy between Cochin and Goa were not so large but carried a big range of commodities. Ships coming from Malacca and the east were usually joined somewhere off Ceylon by coasting boats from Bengal and the Coromandal coast, and the whole fleet was convoyed under protection to Cochin.

Boats laden with copper, zinc, tin, tobacco, spices and chintz came from Coromandal coast to the coastal towns of Bengal. Coromandal coast in turn received copper, mercury, cinnabar, pepper etc., from Gujarat, and spices from Malabar. The coastal towns of Odisha also had links with Coromandal and Malabar coasts. Cloth, foodstuffs, iron, steel and other metals brought from Vijaynagar and Golconda reached Bengal via Coromandal. Rice, textiles and various other items from various towns from coast of Bengal reached to the western coast. The movement of coastal trade was most prominent between Sind-Cambay; Gujarat-Malabar; Bengal-Coromandal; and Malabar-Coromandal.

Silk cloth from Gujarat and Bengal also occupied a prominent place. Beside woven cloth, there was a demand for cotton and silk yarn also. Moreland estimates that the demand of the English Company alone was 200,000 pieces in 1625; 1,50,000 pieces in 1628 and around 1,20,000 pieces in 1630. The famines of Gujarat in the 1630s affected the supply, but during 1638-41 the shipment from Surat carried more than 50,000 pieces per year. After 1650, the **east coast** was also explored and the supply from Madras was around a lakh pieces or more per year. The Dutch demand was also more than 50,000 pieces a year. An account of 1661 estimates that the Armenians bought cotton textiles worth 10 lakh rupees to be sent to Persia.

The above figures give only rough estimates for the exports, nevertheless, they provide an idea about the large scale textile exports.

13.3.2 Overseas Routes

The sea routes on both the Arabian Sea and the Bay of Bengal were well frequented. Before the discovery of the sea route via the Cape of Good Hope, the most frequented sea routes in the north were:

a) from Cambay, Surat, Thatta to the Persian Gulf and Red Sea;

b) from other parts like Dabhor, Cochin and Calicut to Aden and Mocha. At Mocha certain commodities were carried via Red sea and then through overland route to Alexandria via Cairo. Alexandria was another point of distribution of commodities into European countries. With the rounding of the Cape of Good Hope, the European countries got new openings. Now they no more depended on Alexandria or Aleppo. Instead, they dealt directly with India and South Asian countries. An account of 1661 eatimates that the Armenians bought cotton textiles worth 10 lakh rupees to be sent to Persna.

As for Eastern seas, since long the Indian merchants were having seaborne trade with China and the Indonesia Archipelago. From Hugli, Masulipatnam and Pulicat, commodities were sent directly to Achin, Batavia and Malacca. Through the Malacca straits, merchants used to go as far as Macao and Canton in China. (for Coastal, Overseas and Overland foreign trade see **Map 12.2**).

Check Your Progress-2

1) Write a short note on the Coastal trade conducted under the Mughal rule.

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2) List the main overseas trade routes under the Mughals.

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3) What was the significant feature that marked oceanic trade under the Mughals?

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13.4 THE COMING OF THE PORTUGUESE

We have already discussed coming of the Portuguese in Indian waters in **Section 13.2.3**. In this Section we will discuss major commodities of exports and imports and how was the Portuguese trade financed, and the nature of the Portuguese Indian trade.

13.4.1 Commodities of Export and Import

The chief aim of the Portuguese in discovering the sea-route connecting the East

with Portugal was to collect spices directly from the places of production rather than from the hands of the intermediaries like the Italian or the Muslim traders. Pepper became a necessary ingredient in European food. The demand for pepper went on increasing, especially for the sake of preserving meat. Besides, ginger, cinnamon, cardamom, mace, nutmeg and several exotic herbs from the east had a market in Europe. A special variety of textiles like Muslin, chintz, etc. and few animals like elephants, too, found their way to Portugal.

The Portuguese did not have enough commodities to exchange for those available in the East. Their commodities had a limited market among the eastern nobility. Hence precious metals, especially silver, minted or in bullion, were brought to the East from the West for buying goods.

Malabar and Konkan Coasts

Pepper occupied the first place among the commodities traded from Malabar and the Konkan coasts. In the initial stage pepper from Malabar was considered to be far better in quality than that from Malacca, Java and Canara. Towards the second half of the 16th century and the beginning of the 17th century, pepper from Canara began to be exported in larger quantity than before. It is estimated that the Portuguese exported from Malabar about 25,000 to 30,000 quintals of spices of all sorts annually to Lisbon in the first decade of the 16th century. By the end of the century, the contractors were given a targeted export of 30,000 quintals of pepper from the Malabar coast to Lisbon. The records of the first half of the 16th century show that 36,664 quintals of pepper was sent to Portugal from the Malabar and Konkan coasts in 1546.

Ginger constituted another bulk item of trade from the Malabar coast. It was available as conserve, too, for export. Cinnamon was another commodity exported from Malabar, though its quality was not as good as that from Ceylon. White and red sandalwood also found their way to Portugal from the Malabar coast.

Besides these, Myrobalans of all sorts were collected from Malabar, Dabul, Vijaynagar and Deccan in general for export to Portugal. Similarly, sealing wax, indigo, spikenard, tamarind, arecanut, textiles, ivory and turmeric were other items that were exported in varying quantity to Portugal from the Malabar and Konkan coasts. Slaves, too, became a commercial commodity for export.

The request made by the Zamorin of Calicut in 1498 to Vasco da Gama gives a clue to the commodities that were imported into the Malabar and Konkan coasts. He had asked for gold, silver, coral and scarlet. Afonso de Albuquerque, the Portuguese governor of Goa, gave a list of commodities to the king of Portugal in 1513 that could be marketed in India. This included items like coral, copper, quicksilver, vermilion, brocades, velvet, carpets, saffron, rose-water and cloths of various kinds. All these items were not from Portugal, but the Portuguese started procuring them from various places, like Flanders, Germany, England and other European countries. For example, damask, lead, cinnabar, gold from Soffala, French and English linen clothes, alum stone, tin, opium, steel, Genoa velvet, scarlet from Florence, red cloth from London, cloths from Holland, raw and worked corals, etc. were brought to India. Minted coins of various denominations were included in this list. All these were brought to Cochin which was the commercial headquarter of the Portuguese in India. From there they were later sent to various parts of India. When the Portuguese headquarter was shifted to Goa, most of the important articles like gold, silver and cash were taken there and distribution was done from there.

North-Western India

Indigo, textiles of various types, silk and items like handicrafts made of tortoise shells, etc. were collected from the North-western India for export to Portugal. Taffeta was one of the expensive export varieties. Satin, chintz, *malmal*, striped cotton cloths, cambric-muslin, silk scarf, Golconda muslins and various other varieties of silk products available in Chaul, Dabhol and the ports of Gujarat were exported to Portugal. Among these items silks were produced in places like Burhanpur and Balaghat, chintz in Cambay, calico in the vicinity of Daman and Guingao in Cambay and Balaghat. The volume of textile products increased in the 17th century.

Copper, broadcloths and cash in various denominations were sent to the North-western coast. In addition to this, a few products such as pepper and other spices from the South were also taken to North-Western India for the purchase of textiles.

Eastern Coast

Textiles of various kinds constituted the chief export from the eastern coast of India. Sandalwood from the Coromandel was an important item of export to Portugal. Spikenard was cultivated in Bengal and this was brought to Cochin to be exported to Portugal. The most expensive item of export from this region was pearl, chiefly collected from the pearl fishery coast. Cotton and silk textiles and embroideries from Bengal were exported by the Portuguese. Ginger in conserve, myrobalans, butter, oil, wax and rice were the other commodities that were collected from Bengal.

The Portuguese brought to Bengal brocades, damasks, satins, taffetas, cloves, nutmegs, mace, camphor, cinnamon, pepper, chests, writing desks, valuable pearls and jewels. Most of these were from Malacca, China, Borneo, Ceylon and Malabar coast. Sea-shells or cowries from Maldives, white and red sandalwood from Solor and Timor were also taken to Bengal by the Portuguese.

South-East Asia

Various types of spices were collected from Ceylon and other South-East Asian regions; for example, Malacca and Java furnished pepper for export. Moluccas produced good variety of cloves. The best sort of cinnamon was furnished by Ceylon for export to Lisbon. Timor and Tennaserim produced good variety of sandalwood which was carried by the Portuguese to Lisbon. Sumatra provided sealing wax for Portuguese consumption. Borneo, Sumatra, Pacem and China furnished good variety of camphor for export to Lisbon. Benzoin from Pegu was also taken by the Portuguese to Portugal. Rhubarb was carried by the Portuguese from China and musk from Pegu.

In return, the Portuguese took cash, silver, gold and textiles to South-East Asian regions. Most of these textile goods were manufactured in India.

13.4.2 Finances of the Portuguese Trade

Taking into account the details of the Portuguese enterprise on the Malabar coast in the period between 1500-1506, an Italian estimated in 1506 that the total investment needed for conducting trade with the East was 170,000 ducats every year. The king of Portugal provided only 1/4th of this amount and the rest was raised by the merchants and financiers who collaborated with the Portuguese king. In 1500, he issued an order permitting native as well as foreign merchants to fit out their own vessels to the East. Revenues collected in the form of booty, tributes and taxes levied on ships of the private merchants also provided funds for the conduct of trade with India.

European Merchant-Financiers

Italians, especially the Florentines, occupied an important position among the financiers in the 16th century. Most of the Italian financiers concluded contracts with the Portuguese king. They supplied cash or materials to the king at Lisbon. The king used them to purchase pepper and other commodities from India. These commodities were given to these financiers at Lisbon in view of the contracts signed. However, some of the financiers also sent their own factors to India. Cash or commodities were always sent under the supervision of the Portuguese authorities to the East.

Indian commodities also attracted the German financiers and merchants. The Portuguese king welcomed them with open arms for he himself was finding it difficult to finance the Oriental enterprise on his own. Since copper was given in part-payment for Indian commodities, especially pepper and other spices, large quantity of copper was needed for transactions. Some of the German merchant-financiers like the Fuggers had a monopoly over the production of copper in Europe. This turned out to be of great use for trade with India. The German financiers could fit out their vessels, entrust cash and commodities to the India House in Lisbon to be taken to India under the Portuguese flag and buy the commodities from Lisbon according to the terms and conditions of the contracts signed.

During the second half of the 16th century, both the Welsers and Fuggers joined the consortium along with Giraldo Paris and Juan Battista Rovalesco for the purchase of 30,000 quintals of pepper directly from India and agreed to send an amount of 170,000 *crusados* to India annually. Thus, the firms of Welsers and Fuggers continued to be closely associated with the trade of India.

Apart from the Fuggers, other firms like those of Herwarts and Imhof were interested in trading various sorts of precious stones and diamonds from Vijaynagar.

There were a few Portuguese merchants who in their private capacity participated in the trade with India during the 16th century. State officials posted in India were also allowed to participate in the India trade. According to their position in the hierarchy, they had some rights to take certain quantity of commodities to Portugal, in lieu of remuneration in cash. The details of their entitlements were spelt out in their appointment orders and this formed part of their emoluments.

Indian Merchants and Rulers

Several Indian merchants supplied commodities to the Portuguese on credit when the latter did not have cash or commodities to furnish in exchange. The merchants of Cochin, especially the Marakkars, were of great help to the Portuguese in this respect and their services were gratefully remembered by the Portuguese officials. Sometimes, the Portuguese king was persuaded to grant some privileges to such merchants. Khwaja Shamsuddin Gilani, who had settled down in Cannanore after his services to the kingdom of Bijapur, was often helpful to the Portuguese in finding necessary funds on loan.

Some of the local rulers stood surety for the Portuguese when they did not have money to pay to the merchants for the commodities bought by them. For example, the king of Cochin came forward to help the Portuguese several times making the required volume of commodities available to them on credit.

The Portuguese had armed vessels plying in the Indian Ocean and the Arabian sea. Ships carrying commodities which were not given passes (*cartaz*) by the

Portuguese officials were confiscated by them. The booty thus obtained yielded a sizeable source of income which was again invested in trade. Defeated rulers were compelled to pay tributes to the Portuguese, either in cash or kind. This source was also exploited by them several times for investment. The persons interested in sending their ships to other parts of India or to Asian countries were required to take passes (*cartaz*) from the Portuguese for which a fees was charged. Though this was quite negligible in itself, such ships were obliged to visit any of the ports in India where the Portuguese had customs houses, and to pay taxes. This was another source of income for the Portuguese. Thus, in a variety of ways, the Portuguese organized funds for the running of their trade.

13.4.3 Nature of the Portuguese Trade with India

Right from the time Portuguese arrived at Calicut they had demanded that other merchants, Indian as well as foreign, should be ousted and a complete monopoly over trade be granted to them. Portuguese ships equipped with arms and ammunitions threatened other merchants and confiscated their merchandise and vessels. By 1501, the Portuguese king assumed a grandiloquent title evincing his proprietary right over the Indian Ocean regions. The title proclaimed him Lord of Navigation, Conquest and Commerce of Ethiopia, Arabia, Persia and India. In 1502, the Portuguese demanded an exclusive right over trade at Calicut to which the Zamorin, the king of Calicut, did not yield. Vasco da Gama declared war on all ships plying in the Arabian Sea and Indian Ocean. He introduced an expedient under which those ships which carried a *cartaz* duly signed by the Portuguese authorities, namely the royal factor, were not to be attacked. This certificate was first issued in 1502.

Indian merchants, rulers and all those engaged in maritime trade, had to take *cartaz* from the Portuguese. While issuing such passes, it was specifically mentioned that certain items like pepper, horses, ginger, coir, ship pitch, sulphur, lead, saltpetre, cinnamon, etc. were not to be loaded on their ships. All these were monopoly items of the Portuguese. Routes and destinations of such ships were also sought to be controlled. Rulers like Akbar, and his successors, Nizam Shah of Ahmadnagar, Adil Shah of Bijapur, kings of Cochin, the Zamorins of Calicut and the rulers of Cannanore purchased passes from the Portuguese to send their ships to various places.

Monopoly Trade

Till the end of the 15th century, merchants from various quarters of the world were found on the coastal regions of India engaged in trade and commerce. As Vasco da Gama reported in 1498, there were merchants from Mecca, Tenasseri, Pegu, Ceylon, Turkey, Egypt, Persia, Ethiopia, Tunis and various parts of India at the port of Calicut. It is well-known that Chinese merchants as well as merchants from the Red Sea areas used to frequent the Indian ports. There is no record of any group of merchants demanding exclusive right of trade, in general, nor of any attempt made to declare a few or all commodities set apart for any one. But, with the arrival of the Portuguese, this state of affairs underwent considerable change. Kings were pressurized to forbid other merchants from trading with their ports. Similarly, certain commodities were declared forbidden to be traded by others. In other words, the Portuguese demanded monopoly of trade. The treaties concluded with the Indian rulers specifically mentioned this. The setting up of Portuguese fortresses at strategic places, surveillance by their patrolling vessels, and the insistence on passes for other ships were the attempts made to establish monopoly of trade in the Asian waters.

Trade of the Indian Rulers and Merchants

The Portuguese attempts at establishing total monopoly did not bring about a situation in which trade conducted by the Indian rulers and merchants was totally uprooted. The king of Cannanore, for instance, used to collect passes from the Portuguese to send his vessels laden with commodities to Cambay and Hormuz. He imported horses from the above mentioned places, though this was identified by the Portuguese as a monopoly item. Sometimes such vessels ran the risk of being confiscated by the Portuguese. The same was the case with the kings of Tanur, Challe and Calicut on the Malabar coast. The nobles of Gujarat continued their trade despite the Portuguese monopoly. Malik Gopi, Malik Ayaz, Khwaja Sofar and others interested in trade plied their ships with or without passes from the Portuguese.

Besides, the local and foreign merchants settled in India carried on their trade with or without *cartaz*. It was estimated that out of the 60,000 quintals of pepper produced annually in the area between Calicut and Cape Comorin, only 15,000 quintals were delivered to the Portuguese factories and the remaining 3/4th was taken to other ports. This was termed illegal by the Portuguese. The Portuguese were not willing to enhance the price of pepper agreed upon in 1503 even after several decades. Hence, the producers of pepper did not have any alternative other than supplying it to the merchants who might buy it and send it to other centres of trade without the knowledge of the Portuguese. Moreover, several Portuguese officials conducted their own private trade in various commodities without the knowledge of their government. In fact, Portuguese monopoly was never effective in the Red Sea zone.

Trade and Production

Overseas trade conducted in the 16th century in Asia in general and India in particular was, by and large, of long-distance in nature involving the Asiatic ports on the one side and the Atlantic ports on the other. The commodities exported from India reached various parts of Europe. There were a number of elements in the pattern of this trade, as explained earlier, which distinguished it from just 'peddling' trade.

In view of the greater demand for pepper, the cultivators strove to increase the production. It is calculated that the production of pepper in the Malabar area went up by 200 to 275 per cent in the period between 1515 and 1607. As there is no reliable account of the volume of production before the arrival of the Portuguese, it is rather difficult to make a comparison and assert with certainty the exact percentage of increase in production. At any rate, it is reasonable to conclude that the production of pepper in India increased after the Portuguese advent. But it must be borne in mind that the internal demand for pepper from the Mughal Empire and the external one from the Safavi Empire also might have contributed to the increase in pepper production in India.

13.5 THE INDIAN RULERS AND THE EUROPEAN COMPANIES

The evolution of Nation States in Europe broke the European 'unified single economic system'. This coincided with the agricultural and industrial revolutions in Europe. Mercantilism also played its own role. All these factors created the need to look for new markets. With home markets having limited scope for consumption, foreign markets were the only answer. However, as you have already read, at that time the merchants of Venice and Genoa were enjoying

trade monopoly over the Eastern Seas. There was strong urge on the part of other European merchants to break their monopoly, and hence the search for alternative routes to the East. This was possible because of great advance in shipbuilding and navigational technologies. It ultimately resulted in the discovery of a new route to the East via the Cape of Good Hope. This led to the European monopoly over the seas – first by the Portuguese and later by other European powers (the English, Dutch and French). In the late 18th century, India had become the theatre of conflict among European trading companies. Besides the Portuguese, Dutch, English and French, there were other European nations also who were interested in the Eastern trade. But their trading activities were on a much smaller scale. In this Section, the details of armed confrontations between the European companies and Indian states are omitted. Unlike the previous Section where we studied the details of the nature and conduct of Portuguese trade with India, here we will shed light on the nature of relationship between the state and European companies that entered the Indian Oceanic trade during this period.

The Mughals and the Indian rulers were interested in the development of India's overseas trade. They wanted it as it would have increased their revenue resources. Therefore, in spite of all odds, the Mughal Emperors and the local Indian rulers, in general, welcomed foreign merchants. However, the Mughals and other Indian rulers were weak on the seas. To ensure smooth sailing of the Indian ships it was necessary for them to align with one or the other powerful European power who were masters of the seas. You will notice so long as the Mughals were strong, the European merchants followed the policy of seeking concessions through petitions and presents. The Companies also combined trade and diplomacy with war and control of the territory where their factories were situated. With the weakening of the Mughal power, the European Companies started imposing their will on the Indian rulers to get monopolies and concessions. They also took full advantage of the internal conflicts.

The Dutch

The Dutch East India Company was formed in 1602 through a charter. The Dutch were primarily interested in spice trade. Therefore, they paid more attention to the Far East. India was just a trading depot for them. They established their first factory at Petapuli in North Coromandal in 1606, followed by another at Masulipatam in the same year. They established their factories at Pulicat (1610), Cambay (1620), Surat and Agra (1621), Hariharpur (1633), Patna (1638). Dacca (1650), Udaiganj (1651), Chinsura (1653), Qasimbazar, Baranagore, Balasore and Negapatam (1659-60).

The Dutch got favourable response from the rulers of Golconda. They granted them concessions to trade on payment of 4% customs duty on their exports and imports. The Company was also given exemption from duty on cloth (which amounted to about 12%). In 1612, the duty of 4% was commuted into a fixed payment of 3000 *pagodas* annually.

The chief feature of the Company's relation with the Indian rulers was that in spite of getting concessions from the Indian rulers, the local officials constantly used their power to evade the orders and imposed duties on Company's trade. It frequently resulted in clashes with the local officials. In June 1616, the Dutch had to close down their factory at Petapuli owing to the exorbitant demands of the local *havaldar*. In 1619 also, the Dutch were virtually on the brink of closing down their factory at Masulipatam owing to the local *havaldar's* oppression, but the Golconda ruler acted promptly and replaced Mir Qasim, the local *havaldar*. In 1636, the Dutch had to abandon their factory at Hugli owing to harassment by the

local officials and rivalries of local merchants, etc. (the factory was later reopened in 1645-50). They were also exempted from the custom dues at Masulipatam on payment of 3000 *pagodas*. In 1657, they got from the Golconda king the right to mint coin in the Pulicat mint. They collected the mint duty of 5.38%. By the *farman* of 1676, the Golconda ruler granted the Dutch complete freedom from tariffs in Golconda.

In the 1680s, the Dutch had to resort to arms owing to their conflict with the Golconda minister Akanna. In 1686, they occupied the port of Masulipatam. The siege continued for two months. Ultimately Golconda had to come to terms, and the king agreed to restore all previous privileges.

In 1690, the Nayak of Tanjore allowed the Dutch to pay only half of the toll in all parts of his kingdom. They also got the right to keep other Europeans out from the ports of Tanjore. They also received the right to mint coins at Nagapatam. The Bijapur ruler also confirmed all the privileges granted to them by the Nayak of Jinji in 1651.

For trade along the west coast, the Dutch succeeded in getting a *farman* from the Mughal Emperor Jahangir. They were exempted from tolls from Burhanpur to Cambay and Ahmadabad. Shah Jahan also issued two *farmans* granting them permission to trade in Bengal (1635) and at Surat. In 1638, the Company got another *farman* from Shah Jahan to trade in saltpetre as well. In 1642, Shah Jahan exempted the Dutch from the payment of transit duties along the Pipli-Agra route. In 1662, Aurangzeb confirmed all the privileges granted by Shah Jahan to the Dutch in Bengal. This was followed by another *farman* in 1689 by which Aurangzeb permitted all the concessions enjoyed by the Dutch in Golconda which was shortly occupied by the Mughals.

Shah Alam (1709) even reduced customs duty from 3½ % to 2½ % at Surat and Hugli. He also granted total exemption to the Company from paying transit dues throughout the Mughal Empire. But, owing to the hindrances posed by the local officials, the Dutch factors sometimes could not avail of the *rahdari* exemptions. Similarly, to oblige the local officials, they had to spend a handsome sum. But the Company often misused their privilege of carrying duty-free goods. Instead of carrying their own goods, the Company often helped Indian merchants in evading customs at Hugli. In 1712, Jahandar Shah confirmed all the privileges granted by Aurangzeb in Coromandal. However, the local authorities were not ready to surrender the privileges granted by Jahandar Shah. A major conflict broke out at Palakottu and Drakshavaram in 1725-30, and the Dutch factory was attacked and plundered (1728).

The English

In 1599 the 'English Association of the Merchant Adventurers' was formed to trade with the East. This company (popularly known as the East India Company) got a Royal Charter with her trade monopoly in the East by Queen Elizabeth on 31 December 1600. In 1608 the English merchants decided to open their 'first' factory at Surat. By 1619, they succeded in establishing factories at Agra, Ahmadabad and Broach.

In the South, the English opened their first factory at Masulipatam in 1611. In 1626, another factory was opened at Aramgaon. In 1639, they got Madras on lease from the local Raja. Soon, they fortified it which came to be known as Fort St. George. They acquired the island of Bombay in 1668 and fortified it soon after. It was soon to supercede Surat (by 1687) as the headquarters of the Company on the west coast.

In the east they established their first factory in Orissa at Hariharpur and Balasore in 1633. In 1651, they got permission to trade at Hugli. Soon they also opened their factories at Patna (Bihar) and Qasimbazar (Bengal). In 1690, an English factory was opened at Sutanati which was later (1696) fortified. In 1698, the English acquired the *zamindari* of Sutanati, Kalikata and Govindpur, where they built the Fort William. Soon it grew into a big city and came to be known as Calcutta.

It was during Jahangir's reign that the first English envoy reached the Mughal court and received a royal *farman* in 1607. In 1608, when the English established their first factory at Surat, Captain Hawkins was sent to Jahangir's court for securing trading concessions. Jahangir, initially, welcomed the English envoy and a *mansab* of 400 *zat* was bestowed on him by the Emperor. Though in 1611 Hawkins got permission to open trade at Surat, later, under the Portuguese influence, he was expelled from Agra. The English realised that if they wanted any concessions from the Mughal court, they had to counter the Portuguese influence. It resulted in armed conflict between the two at Swally near Surat (1612, 1614). It bore fruits. The Mughals wanted to counter the Portuguese naval might by joining hands with the English. Besides, they also wanted benefits for Indian merchants who could aspire to gain better profits in case of competition between the foreign merchants. Soon, Captain Best succeeded in getting a royal *farman* to open factories in the west coast – Surat, Cambay, Ahmadabad and Goa.

In 1615, Sir Thomas Roe was sent to Jahangir's court. He tried to take advantage of the naval weakness of Indian rulers. They harassed the Indian traders and ships. These pressures resulted in the issue of another *farman* by which the English merchants got the right to open factories in all parts of the Mughal Empire. The English success led to an English-Portuguese conflict from 1620 to 1630 to the advantage of the English. After that, the Portuguese gradually lost almost all of their Indian possessions except Goa, Daman and Diu. In 1662, they gave the island of Bombay to king Charles II of England in dowry.

During the closing years of Jahangir's reign when the English Company tried to fortify their factory at Surat, they were imprisoned by the Mughal officers. When the Company's rival group of English merchants attacked Mughal ships, the President of the Company at Surat was imprisoned by the Mughals and could only be released on payment of 1,80,000 pounds.

In 1651, the English East India Company got a *nishan* from Prince Shuja, the son of Shah Jahan, the then governor of Bengal. By this *nishan* they received trading privileges in return for a fixed annual payment of Rs. 3000. By another *nishan* in 1656 the English Company was exempted from custom dues. However, after Shuja's withdrawal from Bengal his successors ignored his orders for the obvious reason that it affected the treasury. But later Shaista Khan (1672) and Emperor Aurangzeb's *farman* finally ensured a custom-free English trade.

During Aurangzeb's reign, we notice some changes in the Mughal-English Company's relations. By this time the English Company with fortified settlements at Madras and Bombay felt stronger. Aurangzeb himself was busy in his Deccan campaigns. Now they could well think of abandoning their role as humble petitioners. By the use of force, they could now dictate prices and acquire a free hand in trade. They were planning to establish trade monopoly by gradually driving out all other European powers from competition.

In 1686, the English declared war against the Mughal Emperor and sacked Hugli. However, they were highly mistaken in assessing the Mughal might. Unlike their counterparts in South India, the Mughals were more than a match to a small

trading Company. It resulted in the latter's humiliation. They had to lose all their possessions in Bengal. Their factories at Surat, Masulipatam and Vishakhapatam were seized and their fort at Bombay was besieged.

Realising the Mughal might they again went back to their old policy of 'petition and diplomacy'. They again turned humble petitioners and agreed to trade under the protection of the Indian rulers.

Soon, the Mughals pardoned them considering the advantage of increasing foreign trade. Aurangzeb granted them permission to trade on payment of Rs. 1,50,000 as compensation. In 1691, the English Company succeeded in getting exemption from the grant of custom duties in Bengal on an annual payment of Rs. 3000. In 1698, the English king sent a special envoy Sir William Noris to Aurangzeb's court to secure the formal grant of the trading concessions and the right to exercise full English jurisdiction over the English settlements. In 1714-17 another mission was sent under Surman who was able to procure three *farmans* from Farrukh Siyar that exempted them from paying custom dues in Gujarat and Deccan as well. In Bengal so long as Murshid Quli Khan and Ali Vardi Khan remained on the scene, they strictly checked the corruption of any of the privileges granted to the Company. But immediately after their departure (1750s), the Company got an opportunity to intrigue and soon succeeded in defeating the Nawab of Bengal in 1757 at the battle of Plassey.

The rulers of Golconda also maintained friendly relations with the English Company. In 1632, the ruler of Golconda issued a *farman* by which they were allowed to trade freely in the ports belonging to Golconda on payment of 500 *pagodas* irrespective of the volume of trade. This certainly gave a great boost to English trade in the Coromandal region.

The French

The French were late comers to the Eastern trade. The French East India Company was founded in 1664. The first French factory was established at Surat in 1668. In 1669, the French established their second factory at Masulipatam. In 1673, they got Pondicherry, and in 1674 the Nawab of Bengal granted them a site near Calcutta where in 1690-92 they built the town of Chandranagore.

The French had to face the wrath of the Marathas (Shivaji) as early as 1677. French commander (later Director General of French affairs in India) Martin readily acknowledged the authority of Shivaji and agreed to pay him an amount in lieu of a licence to trade in his dominions. Shivaji accepted the French request on the condition that they would not participate in military operations against him. In 1689, the French got the permission to fortify Pondicherry (from Sambhaji). The French also succeeded in getting a *farman* from Aurangzeb as early as 1667 to open their factory at Surat. In 1688 the Mughal Emperor Aurangzeb ceded Chandranagore village to the French. The French maintained close ties with Dost Ali, the Nawab of Carnatic. On the basis of a strong recommendation by him the Mughal Emperor Muhammad Shah issued a *farman* granting permission to the French to mint and issue gold and silver currency bearing the stamp of the Mughal Emperor and the name of the place of minting.

A change in the political situation in South provided the French with an opportunity to interfere in the internal affairs of Indian rulers. In 1738 civil war broke out at Tanjore following the death of Venkaji's grandson Baba Sahib. Sahuji, another claimant to the throne, approached the French Governor M. Duman for help. In return the French got Karikal and Kirkangarhi. Sahuji's reluctance to cede the promised territory provided the opportunity to Chanda Sahib, (son-in-law of Dost

Ali, Nawab of Carnatic) to act promptly and he promised the French Karikal and Kirkangarhi if they allowed him to occupy parts of Tanjaur. But soon Chanda Sahib had to face the wrath of the Marathas which compelled him to seek the French help. Muhammad Shah on hearing about the successful French resistance to Marathas granted M. Dumas the title of Nawab and bestowed upon him a *mansab* of 4500/2000. The French involvement in the affairs of the principalities of South India ultimately resulted in Carnatic wars (1746-1748; 1749-1754; 1758-1763) and the defeat of the French.

Check Your Progress-3

1) List the main commodities of imports and exports in Indian Oceanic trade carried by the Portuguese.

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2) Describe the role played by varied financers in conducting the Portuguese trade.

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3) Examine the nature of Portuguese trade with India, especially in the light of monopoly trade.

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4) Describe the historical context in which European merchants searched for trade routes to the East. Give example.

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13.6 SUMMARY

In this Unit, we have discussed the nature of trading activities through maritime trade. There was long distance trade connecting India with various parts of the South East Asian countries and West Asia. However, direct maritime trade relations with Europe, especially with the countries bordering the Atlantic Ocean, were not in existence. The Portuguese emerged as an important naval power in Indian waters especially after their occupation of Goa in 1510.

After the initial breakthrough made by Vasco da Gama, organized attempts were made by the Portuguese to utilize the commercial potentialities of Asia in

general and India in particular. Local rulers granted them permission to establish factories and other infrastructural facilities needed for the development of trade and commerce. In some cases, fortresses were also established.

We have seen in this Unit how the arrival of the Portuguese generated some new trends in the trading world of Asia, especially in the context of India. Maritime trade, so far open to everyone, was claimed now as the monopoly of the Portuguese and, to effect this, they built factories and fortresses. Introduction of passes for other ships lest they should be attacked was something unheard of till the dawn of the 16th century. The Portuguese after establishing themselves on the coastal regions of India reaped large profits by conducting trade in spices. For the first time in the history of international trade, commercial treaties with Indian rulers were concluded. The production of cash crops, especially spices, kept its stride with the increasing demand. It should also be emphasized that agricultural production had become enormously market oriented, with an eye to international trade.

With the discovery of the new sea-route via the Cape of Good Hope, the Eastern trade was thrown open to all the European nations. During this period, the Portuguese, Dutch, English and French merchant Companies established their factories in Africa and Asia. The European Companies were interested in gaining more and more concessions from the Indian rulers.

13.7 KEYWORDS

Bahr al-Hind	The Indian Ocean in Arabic
Bohras	Muslim trading community of Gujarat
Cartaz	A kind of permit issued by the Portuguese to ply ships in the Asian waters without which the ships were liable to be confiscated and the cargo plundered
Eastern Coast of India	It stretched from Bengal to Coromandel but including the Ma'bar, ports was linked with the South-east Asia and China
Western Coast of India	It stretched from Sind to Malabar, was linked with the ports of the Persian Gulf, Red Sea and East Africa

13.8 ANSWERS TO CHECK YOUR PROGRESS EXERCISES

Check Your Progress-1

1) See Sub-section 13.2.1
2) See Sub-section 13.2.2
3) See Section 13.2

Check Your Progress-2

1) See Sub-section 13.3.1
2) See Sub-section 13.3.2
3) See Section 13.3

Check Your Progress-3

1) See Sub-section 13.4.1
2) See Sub-section 13.4.2

3) See Sub-section 13.4.3

4) See Section 13.5

13.9 SUGGESTED READINGS

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13.10 INSTRUCTIONAL VIDEO RECCOMENDATIONS

Sources for the Study of Economic History of Medieval Period | Vidya-mitra
https://www.youtube.com/watch?v=88XQIi_wKxE&list=PL_a1TI5CC9RHAweDRQ4pPwiQq4SWXZB1-&index=3

Delhi Sultanate: Industry, Trade and Commerce | Vidya-mitra
https://www.youtube.com/watch?v=TCbkw8Gl0Ag

Foreign Trade in Mughal India – Part I | Vidya-mitra
https://www.youtube.com/watch?v=rrjFb71sv7E

Introduction of Maritime Trade of India | Vidya-mitra
https://www.youtube.com/watch?v=ApkfpQyTY_4&list=PL_a1TI5CC9RHAweDRQ4pPwiQq4SWXZB1-&index=32

Maritime Contacts of East Coast of India with the Red Sea, the Persian Gulf | Vidya-mitra
https://www.youtube.com/watch?v=jSa3HK11WMo&list=PL_a1TI5CC9RHAweDRQ4pPwiQq4SWXZB1-&index=33

UNIT 14 TECHNOLOGY, CRAFT PRODUCTION AND SOCIAL CHANGE*

Structure

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The present Unit is taken from our Course EHI-03: *India: From 8th to 15th Century*, Block 6, Unit 22 and EHI-04: *India from 16th to Mid-18th Century*, Block 8, Unit 32.

14.0 OBJECTIVES

This Unit introduces you to major crafts and technology that existed during the Delhi Sultanate and the Mughals. After reading this Unit, you would learn about the following:

- agricultural technology,
- textile technology,
- building construction,
- paper making and book binding,
- military technology,
- tincoating,
- glass manufacture,
- shipbuilding,
- distillation,
- metallurgy,
- printing press,
- time-reckoning devices, and
- learn the nature of response of the Indians to European science and technology.

14.1 INTRODUCTION

There has never been any human settlement which did not use some kind of technique or craft for its survival. In fact, the history of technology is no less important than political or economic studies. Technology is an inseparable part of the material culture of a society.

In this Unit, we are offering you a few glimpses of the state of technology in India during the Delhi Sultanate and the Mughals.

The most remarkable aspect is the introduction of new articles of technology and new crafts by the immigrant Muslims that had either developed or evolved in the Islamic culture-areas. In the present Unit focus will also be on the new articles of technology brought by the Europeans during the sixteenth and seventeenth centuries. Therefore, our methodology is to juxtapose the indigenous crafts and technology along with the new importations.

One thing that will strike you is that by and large the tools, devices and implements were made of wood and earth, while iron was employed only when most necessary. Ropes, leather and bamboo, too, were used when the need arose. That is why they were inexpensive.

We have not gone into the details of tools and implements used by different craftsmen. For example: hammer, saws, *basola* (adze), *randa* (plane), awl, axe, *barma* (bow-drill), pick-axe, **shovel**, chisel (*tesha*) and anvil, etc.

We have left out salt and diamond mining which were also very important industries. Salt was also procured by the natural evaporation of the saline sea-water collected systematically.

14.2 AGRICULTURAL TECHNOLOGY

In this Section we will discuss the main technological devices related to agriculture.

14.2.1 Plough

The use of hoe or hoeing was replaced by plough centuries back. Archaeological evidence from Kalibangan (Rajasthan) – an Indus valley culture site – for the use of 'iron less' plough is well-known, although the doubt remains whether it was drawn by men or oxen. Plough-cultivation employing oxen during the Vedic Age is, however, an established fact. The Iron Age, identified with the Aryan settlement in the Gangetic plain, contributed to the development of the plough in the sense that while the entire frame earlier was of timber, the ploughshare/ courter now was of iron. This metallic piece immensely helped in the tillage of comparatively harder soil. An illustration in the *Miftah-ul Fuzala* – a Persian lexicon compiled in about CE 1469 in Malwa – clearly shows the plough with an iron share drawn by two yoked oxen. Unlike Europe, India could not develop horse-drawn wheeled-plough for the reason that our plough was light in weight suited for the soft soil.

Figure 14.1: Iron-Plough share: *Miftah-ul Fuzala*

14.2.2 Sowing

For sowing, the method of broadcasting was known. The practice was to scatter seeds manually by taking them out from a cloth-bag slung over shoulders. The time-scale of seed-drill in India is controversial: some would trace it back to the Vedic Age. At any rate, the only positive evidence for its use along the western coast of India comes from one Portuguese – Barbosa (*c.*1510) – in connection with the wet-cultivation of rice.

14.2.3 Harvesting, Threshing and Winnowing

Harvesting was performed with a sickle, and threshing by using oxen who walked round and round over the ears put on the threshing floor. 'Wind power' was exploited in winnowing in order to separate the chaff from the grain.

14.2.4 Irrigational Devices

There were many sources of water for the purpose of irrigating fields. Rain water was the natural source. Ponds and tanks received this water which was used for irrigation. Water channels formed by inundation, too, served the same purpose. But the most important controlled source was the water of the wells, especially in North India. Almost all the irrigational devices were oriented towards drawing water from wells. The latter were more often than not masonry ones with raised walls and enclosures/platfroms. *Kuchcha* wells also existed, but these could not have been durable or strong enough for extensive water-lifting.

Broadly, there were five devices or techniques to raise water from wells:

i) The most simple technique was to draw water with rope and bucket by using hands without any mechanical aid. Obviously, then, the bucket was small in size and, thus, this operation would not have adequately served to water large fields. But we cannot deny the use of rope-bucket technique for irrigating small fields for crops, most probably vegetables that did not require much water.

ii) The second method was the employment of **pulleys** (*charkhi*) combined to the rope-bucket **contraption** which was, once again, activated manually. Undoubtedly, the pulleys needed lesser amount of human energy and, therefore, comparatively larger bags or buckets could have been attached to the rope. It was also used for domestic purpose, especially by women.

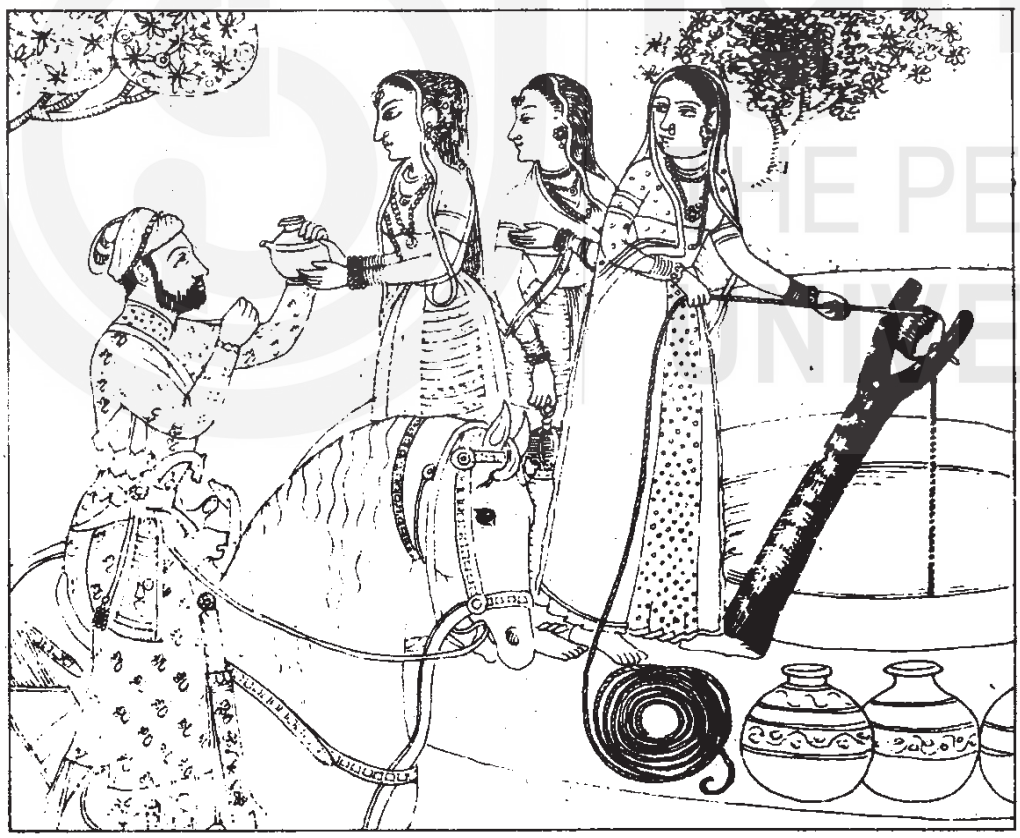


Figure 14.2: Use of Pulley

iii) An improved method of the rope-bucket-pulley contraption was the employment of a pair of oxen to replace human-power. At this stage, it had become a specialized device for drawing water intended specifically for irrigation. In some areas of North India it is still in operation known as *charasa*. The latter is a huge bag that gives an idea of the immense quantity

of water raised from the well in one single haul-up. Moreover, the bullock track was like a **ramp** or sloping path – the length of the path corresponding to the depth of the well. The water of the well (mounted with this device) could not have been used for drinking, cleansing utensils or for washing cloths. Of all the five methods, *charasa* was not a multi-purpose one, it was solely devised for irrigation – a fact which has not been realized till now.

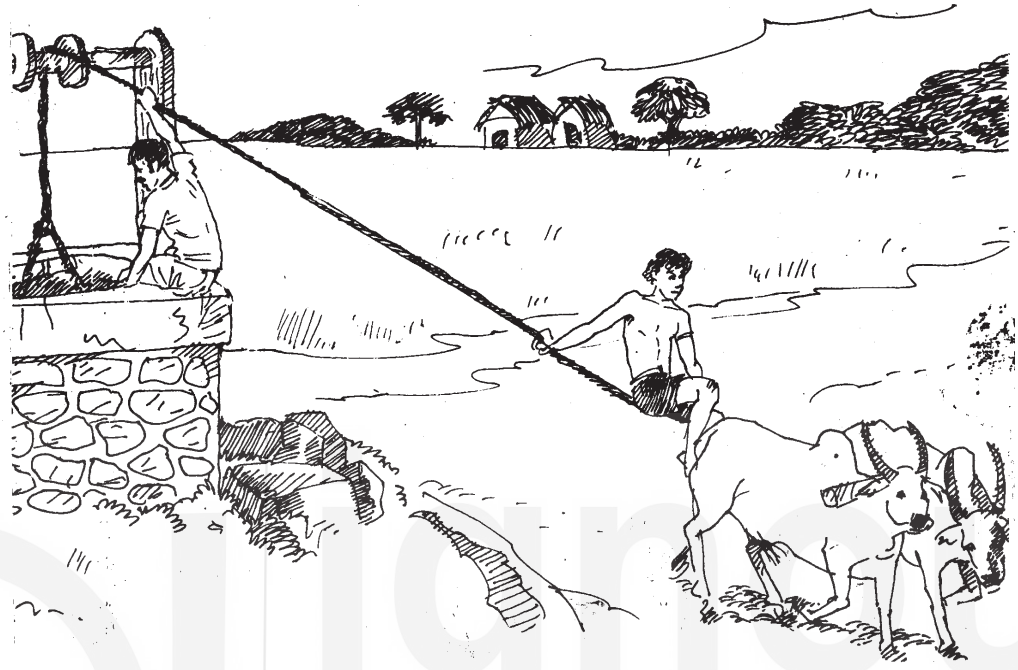


Figure 14.3: *Charasa*: Use of Animal Power

iv) The fourth technique was what is considered to be semi-mechanical as it worked on the First Class Lever principle. Along rope is lashed to the fork of an upright beam or trunk of a tree (especially meant for this purpose) to put it in as winging position. The bucket is fastened to a rope whose other end is tied to the one of the swinging pole hovering over the well. The pole's other end carries a 'counterweight', a little heavier than the bucket when filled with water. Thus, the fulcrum forms at the centre of the pole, with weight and 'counterweight' (Effort) at its two ends. This contraption requires only a little effort on the part of the person operating it. The device is known as *shaduf* in Egypt. It is called *tula* (balance) in Sanskrit, but in Bihar and Bengal it is known as *dhenkli* or *lat/latha*.

Figure 14.4: *Dhenkli*

v) The fifth water-lifting method is called *saqiya* or 'Persian Wheel'. None of the four mechanism described above required wheels as their basic component.

> This water-wheel could well claim to be called a water machine because of the employment of the **gear** system. With gears we enter upon a very advanced stage in the technological sense: it has been surpassed only now by electric tube-wells.

Much controversy has cropped up about the origins of *saqiya*: did it exist in India prior to the advent of the Muslims, or was it a foreign importation through the agency of the Turks? In India, its earliest form was one wheel with pitchers or pots of clay attached around the rim of the wheel. It was called *araghatta* or *arahatta* in Sanskrit. This device called *noria* in English – a corruption of Arabic *naurah* – was worked by human power only. Its form itself forced it to be set up over shallow water or open surfaces – stream, reservoir or even rivers where water would level up to its banks. Thus, its use over wells was absolutely out of question.

The second stage was to exploit it over wells. This was done by releasing the earthen pots fitted around the rim of the wheel and, in its place, a chain or garland (Hindi: *mala*) of pots was provided which was long enough to reach the water level of the well. The *mala* or chain was made of double ropes without open ends between which the pots were secured with timber strips. It is important to note that there is no separate term for this contrivance in Arabic or Persian. In Sanskrit, however, it was called *ghatiyantra* (pot-machine), although the words *araghatta* and *arahatta* continued to be used for both the types of *noria*. This, too, was operated by human-power.

At the third and final stage, we find three developments to have taken place:

a) addition of two more wheels;

b) gear mechanism; and

c) the use of animal power.

The lantern-wheel provided with vertical pegs at regular intervals, was set up on an upright axle to be moved by animal power round and round horizontally. The pin-wheel was arranged vertically with a shaft or axle connected to the third wheel over the well that carried the pot-garland. This was, then, the gear system in order to exploit animal power. Essentially, the point was to convert the original horizontal motion of the lantern-wheel into a vertical one for the wheel set up over the well.

The confusion of some modern scholars in this controversy is to identify the two first stages of noria with *saqiya*. But now you know that the latter was radically different not only in its conception but also in its components. A semantic blunder was committed when the same terms – *araghatta* and *arahatta* (modem *rahat*) – were used for the *saqiya* when the Muslims brought it in early medieval period. In fact, there is no evidence of water wheels being operated by animals in Ancient India.

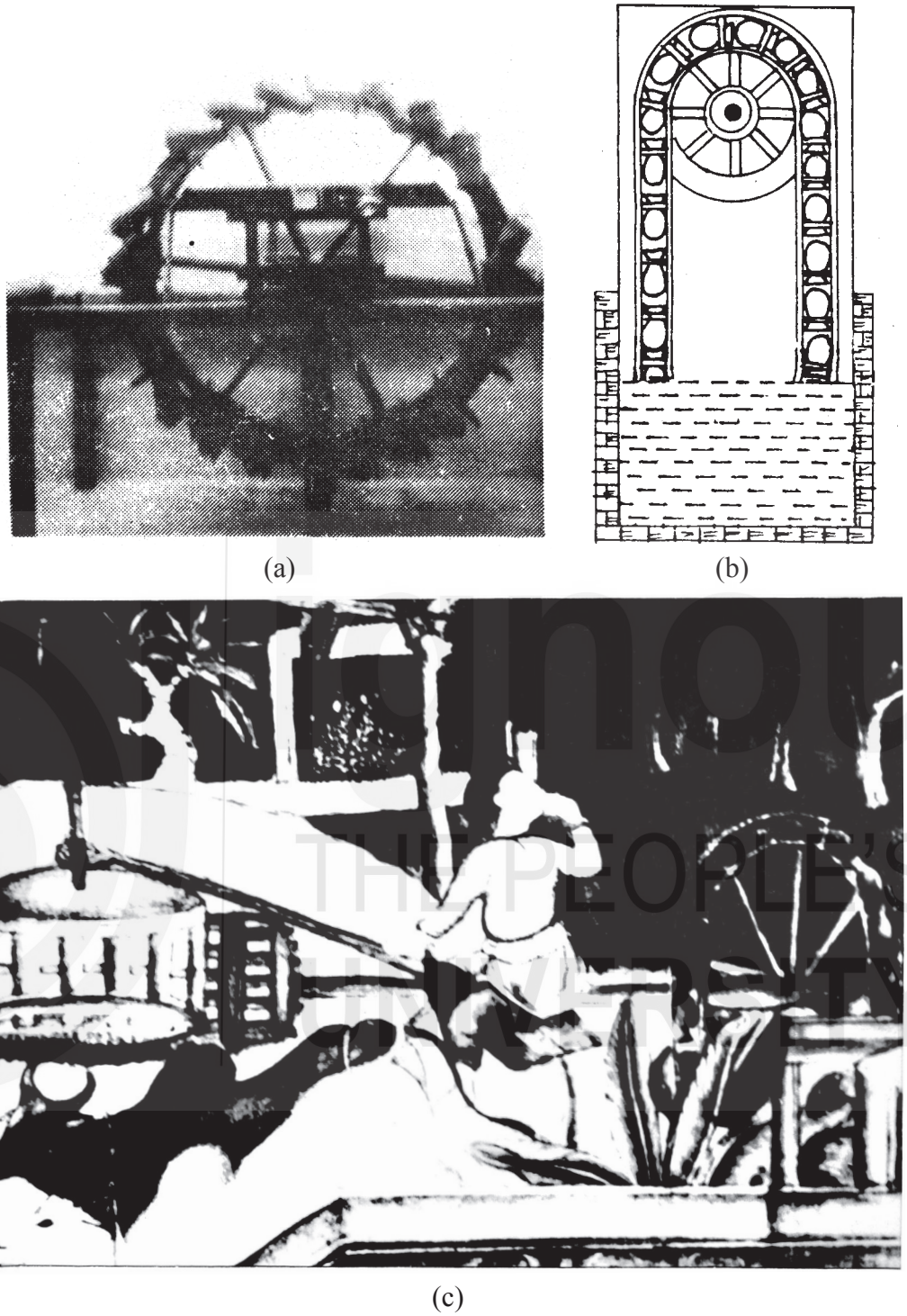
The five devices to raise water from wells described above can be put into two broad categories:

a) Intermittent or Discontinuous water-supply device, and

b) Continuous supply system.

The first four belong to the former and the fifth to the latter category. Again, depending the nature of the operative source, that is, human power and animal power, the first and the fourth fall in the human power category and the others were driven by animal power. Since the water had to be lifted from wells, all the

devices except the fifth, shared two things amongst them: rope and bucket/bags, the latter varying in size commensurate to the 'power' used.



(a) (b)

(c)

Figure 14.5: a) First Stage of *noria*; b) Second stage of *noria*: an imagery model; c) *Saqiya:* third stage of *noria*: see three wheels with gear mechanism; third wheel with the pot

The greater part of the Hindustan country is situated on level land. Many though its towns and cultivated lands are, it nowhere has running waters. Rivers and, in some places, standing-waters are its "running-waters" (*aqar-sular*). Even where, as for some towns, it is practicable to convey water by digging channels (*ariq*), this is not done. For not doing it there may be several reasons, one being that water is not at all a necessity in cultivating crops and orchards. Autumn crops grow by the downpour of the rains themselves; and strange it is that spring crops grow even when no rain falls. To young trees water is made to flow by means of buckets or a wheel. They are given water constantly during two or three years; after which they need no more. Some vegetables are watered constantly.

In Lahor, Dibalpur and those parts, people water by means of a wheel. They make two circles of ropes long enough to suit the depth of the well, fix strips of wood between them, and on these fasten pitchers. The ropes with the wood and attached pitchers are put over the well-wheel. At one end of the wheel-axle a second wheel is fixed, and close (qash) to it another on an upright axle. This last wheel the bullock turns; its teeth catch in the teeth of the second, and thus the wheel with the pitchers is turned. A trough is set where the water empties from the pitchers and from this the water is conveyed everywhere.

In Agra, Chandwar, Biana and those parts, again, people water with a bucket; this is laborious and filthy way. At the well-edge they set up a fork of wood, having a roller adjusted between the forks, tie a rope to a large bucket, put the rope over the roller, and tie its other end to the bullock. One person must drive the bullock, another empty the bucket. Every time the bullock turns after having drawn the bucket out of the well, the rope lies on the bulllock-track, in pollution of urine and dung, before it descends again into the well.

To some crops needing water, men and women carry it by repeated efforts in pitchers.

Irrigation Devices as mentioned by Babur, *Baburnama*, tr. Beveridge, pp. 486-487

There were many implements like shovel, pick-axe and scraper (*khurpi*), etc. that were used not only in agricultural processes but in gardening, too.

Check Your Progress-1

1) Mention various techniques used during the 13th-15th centuries to lift the waterfrom wells.

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2) Discuss the technique used in *saqiya* to lift water from the wells.

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3) Mark (✓) against the right and (×) against the wrong statements given below:

i) *Kuchcha* wells were durable for extensive water-lifting. ( )

ii) *Dhenkli* worked on the First Class Lever principle. ( )

iii) In *saqiya* gear mechanism and animal power was used. ( )

iv) *Charasa* was mainly used for domestic purposes. ( )

14.3 TEXTILE TECHNOLOGY

During the Sultanate period various new techniques were introduced by the Turks in the field of textile.

14.3.1 Ginning, Carding and Spinning

Cotton cultivation belongs to agricultural technology. After picking up cotton balls, there were three basic stages before cotton could be used for weaving:

i) ginning or seed extraction;

ii) carding or fibre loosening; and

iii) spinning or making yarn.

The first was done in two ways:

a) roller and board method, and

b) worm-press or worm-roller (*charkhi*).

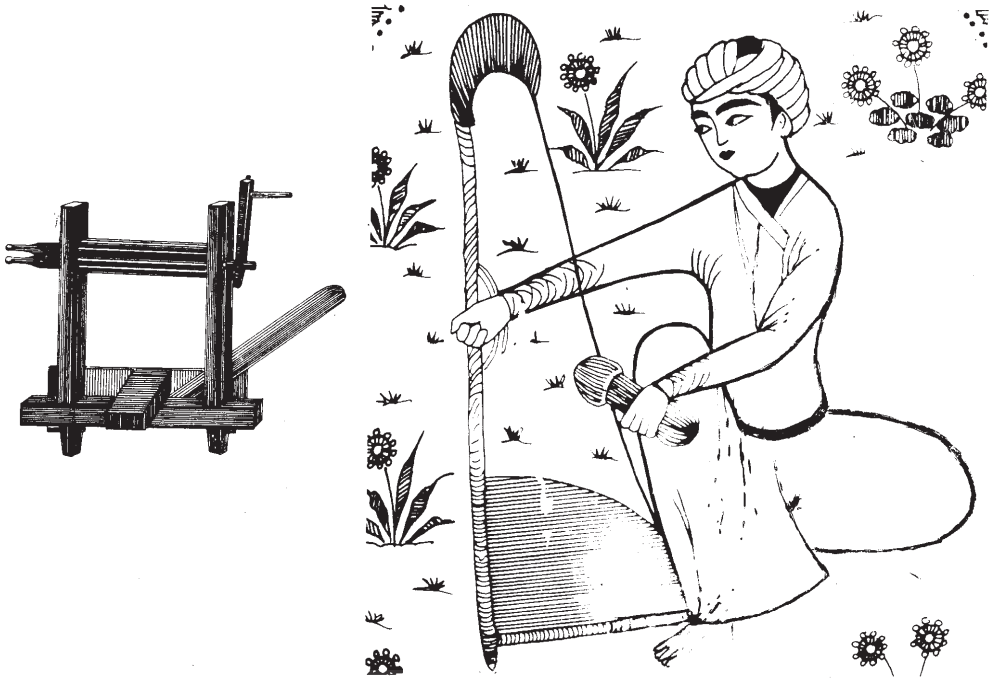
Cotton thus separated from seeds was "beaten" with sticks or carded with bow-string in order to separate and loosen the fibers (*naddafi* in Persian; *dhunna* in Hindi). Spinning was traditionally done with the spindle (*duk* in Persian; *takla* in Hindi) to which a whorl (*phirki* in Hindi) was attached to stabilize it.

The most important technological revolution in the textile sector was the introduction of the spinning-wheel (*charkha*) through the agency of the Muslims during the thirteenth-fourteenth centuries. *Charkha* did not exist in Ancient India. The first literary reference to *charkha* comes from Isami's *Futuh-us Salatin* (CE 1350). This new contribution, however, did not displace the spindle: it only accelerated the latter's rotation. The spindle was attached to the wooden frame of the *charkha* at its one end to be set in motion by the "belt" which was wrapped over the wheel at the other end of the frame, connecting it to the spindle. Thus, the *charkha* combined within itself the element of power-transmission (through belt-drive) and the principle of flywheel resulting in differential speeds of rotation. There is a controversy about the date as to when a handle or crank-handle was attached to the device. But this controversy can be now settled with the help of a pictorial evidence (*c.* CE 1530) in the *Miftah-ul Fuzala* where a spinning-wheel has been shown being operated with a handle attached to the frame.

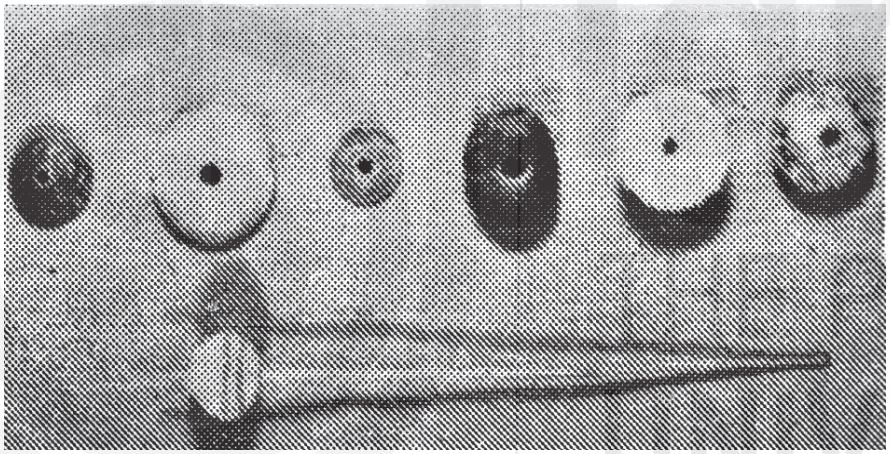
According to one estimate, a spinning-wheel could produce yarn six-fold more than the spindle during the same unit of time. This must have resulted in greater output of yarn and, consequently, more cloths. It must be pointed out that the yarn from spindle was of a very fine quality whereas the *charkha* produced coarse yarn for coarse cloths.

14.3.2 Weaving

Horizontal loom of throw-shuttle type was used for simple or **tabby** weave. It is difficult to determine whether the **pit-loom** (**treadle loom**) was in use in Ancient lndia, but we get the first evidence of this loom in the *Miftah-ul Fuzala* (*c.* CE 1469) illustrated in *c.* 1530. This loom allowed the weaver to employ his hitherto idle feet to lift and depress the sets of warp threads, while his hands worked mainly upon the shuttle and the shed. This speeded up the pace of weaving. For patterned weave (of different colours simultaneously), one scholar suggests that draw-loom for this purpose might have existed in South India around CE 1001. But this view has been questioned by arguing that perhaps it was brought to India by the Muslims late in the seventeenth century.



(a) (b)



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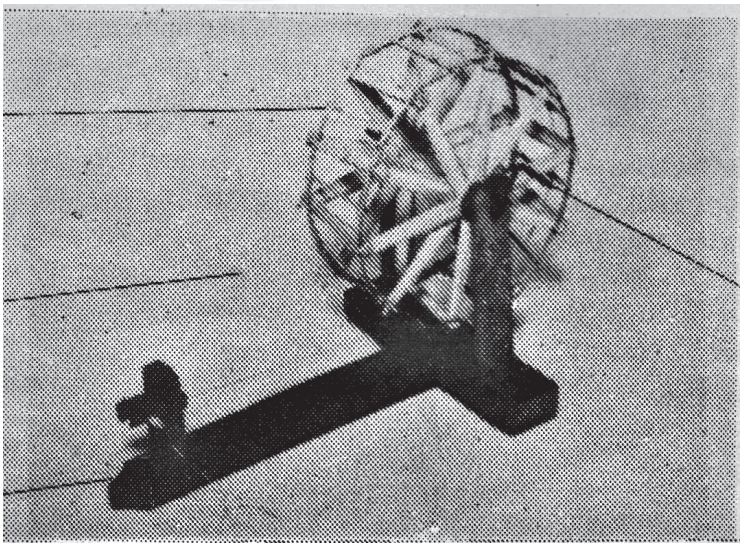

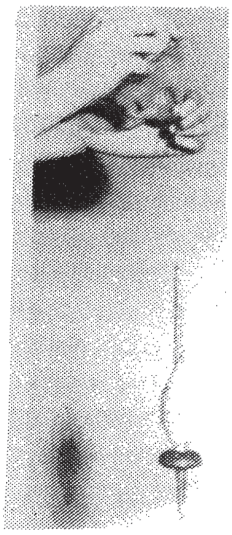

(e) (d)

Figure 14.6: a) Ginning: roller and board method; b) Carding; c) Spindle; d) Spinning with the spindle; e) Spinning-wheel: 1. Spindle 2. Belt 3. Wheel 4. Handle

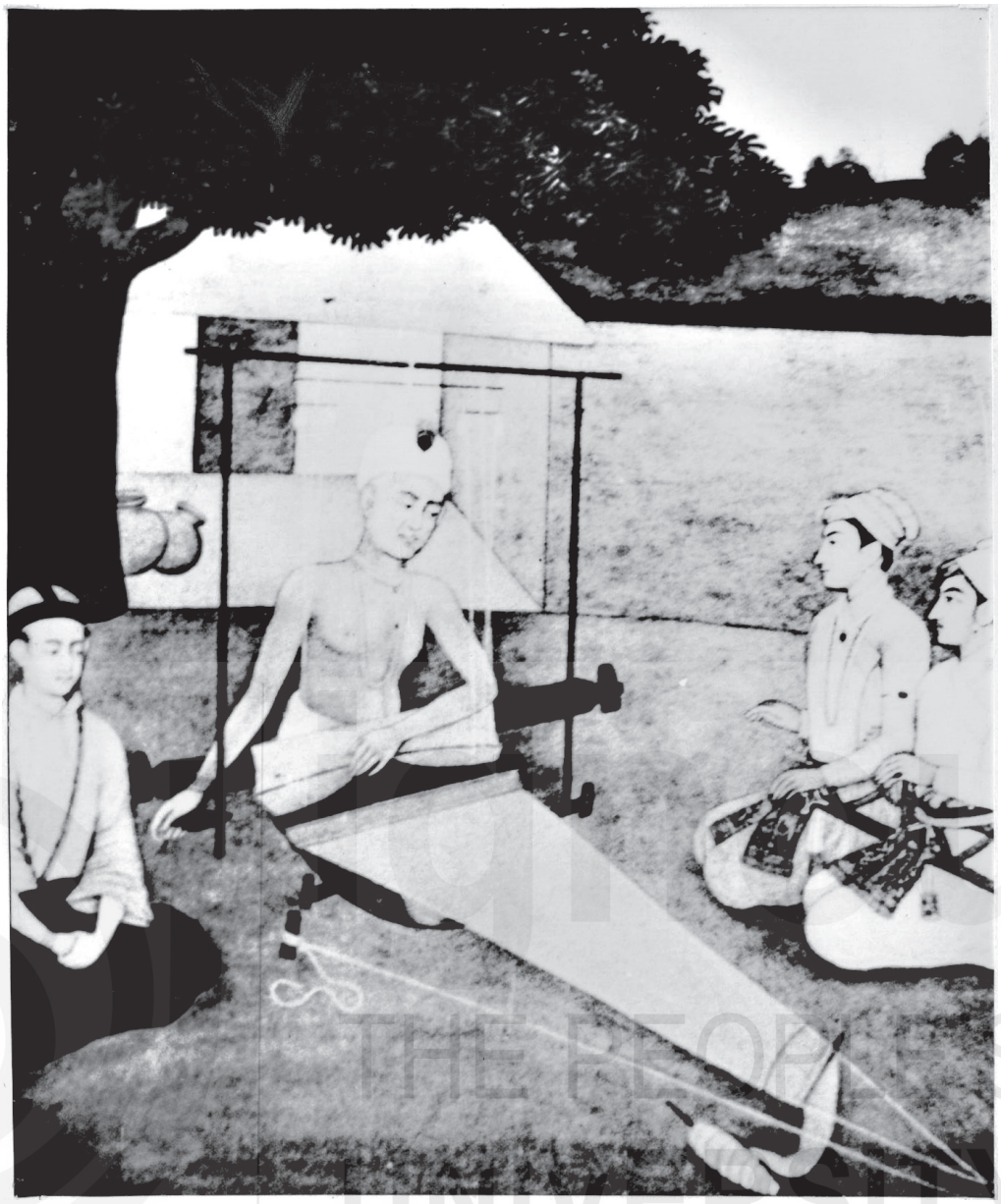

Figure 14.7: Pit-loom, a 16th century Mughal painting (Kabir)

14.3.3 Dyeing and Printing

Various colours derived from vegetable and mineral sources were used for dyeing. Indigo, madder and lakh, etc. were widely employed. Indigo was used for both bleaching and dyeing. For fast colours, many articles like **alum** were added. The Indian dyer (*rangrez*) employed many techniques like **immersion**, tie-and-dye (*bandhana*), etc. But block-printing (*chhapa*) was perhaps unknown in Ancient India. Some scholars credit the Muslims with its diffusion in India.

Check Your Progress-2

1) State the methods used for ginning during the thirteenth-fifteenth centuries.

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2) Write a note on spinning-wheel.

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3) Discuss the techniques used by the weavers during the thirteenth-fifteenth centuries.

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14.4 BUILDING CONSTRUCTION

In this Section our focus would be on major building construction devices introduced by the Turks in India.

14.4.1 Lime Mortar

The traditional basic units of construction in Ancient India consisted of clay, stones, wood and occasionally bricks. The simplest cementing material or mortar was plain earth mixed with water. An improved kind was straw (*bhus*) added to a mixture of clay and water which was used for plastering also. But lime mortar was definitely brought by the immigrant Muslims during the Delhi Sultanate.

The basic ingredients in lime-mortar were lime (*chuna*) and *surkhi* (pounded bricks). Lime was of various kinds, according to the material from which it was extracted. The two major sources of lime were gypsum and gravel (*kankar*). The later were first burnt in kilns yielding **quicklime**. This quicklime was then treated with water to turn it into **slake lime**. *Surkhi* was added to this mix. Afterwards, a number of **gelatinous**, **glutinous** and **resinous** cementing agents like gum, pulses, jaggery, etc. were added to make the mortar more sticky.

14.4.2 Arch and Dome/Vaulted Roofing

One result of lime mortar was the extensive use of bricks as it made the brick buildings more durable. Another important consequence was that lime mortar paved the way for the construction of true **arch** (*mihrab*). Actually, the very arrangement of bricks or stones in making a true arch demands a strong cementing material to hold the **voussoirs** together. Lime mortar fulfilled this need. This explains the almost total absence of true arch in Indian buildings prior to the Turkish advent. The only exception, however, was the Kushana period: excavations at Kausambi (near Allahabad) have revealed the existence of some arches – over small windows (not gates). As you know, the Kushanas had come from Central Asia and, therefore they knew arch making. Afterwards, there is not a single evidence of true arches in India till the coming of the Muslims. Another form of arch was the **corbelled** one: in fact, it was a variant of trabeate construction, that is, the pillar-and-beam technique which was the most distinguishing feature of pre-Muslim Indian architecture.

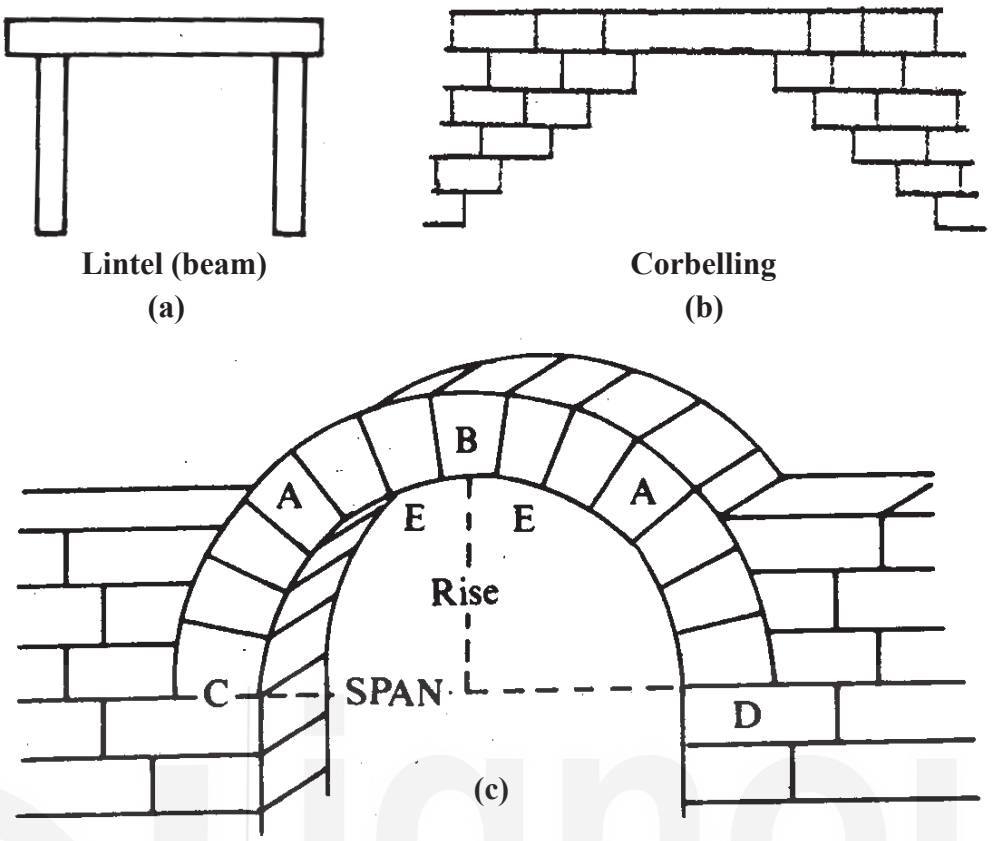

Figure 14.8: a) Pillar-and-beam; b) Corbelled; c) Arch and its parts
a) Voussoirs b) Key stone

From *mihrab* to *gumbad* (**vaulted roofing** or dome) was a natural development since vaulting or dome was not possible without a knowledge of how to make a true arch. That is why it is observed that a dome is a true arch turned 360 degrees. In other words, a dome was constructed on the principle of intersecting true arches (A note of caution: dome should not be confused with the Buddhist stupas).

No significant development took place in building technology during the seventeenth century. However, we may take note of one practice, that is, preparation of a sort of "blue print" of the building to be constructed. This was called *tarh* (outline) in Persian which consisted of drawing on a thick sheet of paper by employing "grid of squares" (graph sheet) for indicating proportions. We may also mention that Indian buildings did not have window-panes and chimneys which Europeans used back home.

14.5 PAPER MAKING AND BOOK BINDING

Now you know how the immigrant Muslims acted as agents of diffusion for numerous techniques and articles of technology that had developed or evolved in the Islamic culture area. Paper making was yet another contribution.

The writing materials in Ancient India were many: stones, copper plates, silk and cotton cloths, and specially prepared palm-leaves (*talpatra*) and birch-bark (*burjapatra*). The latter two were employed for writing books.

Paper was first manufactured in China around the first century CE. It was made from bamboo pulp. The Muslim Arabs learnt paper making from some Chinese who were taken prisoners in a battle in CE 751. Very soon the Arabs developed this craft by making paper from rags and old linen.

The Indians perhaps knew about paper in the 7th century CE, but they never used it as writing material. When the Chinese traveller I-Ching visited India, he could not find paper to copy the Sanskrit manuscripts for being taken to China. Since he had exhausted his own stock, he sent a message to his friends in China to send paper to him.

During the Delhi Sultanate, paper was used for many purposes, especially for books, ***farmans*** and numerous commercial and administrative documents. Paper was available on a large scale so much so that sweet meat-sellers of Delhi delivered sweets to the buyers in paper packets called *purya* which is still the practice in India. But it seems that papermaking centres were few and far between. We know from the 14th century Chinese navigator, Ma Huan, that Bengal produced paper. However, the bulk of paper needed was imported from Islamic countries, specially Samarqand and Syria.

The practice of writing books on paper was accompanied by the craft of bookbinding which was an innovation in India, because the technique was different from that followed in India, for putting sheets of writing material together (palm-leaves and birch-bark).

Check Your Progress-3

1) Discuss the contribution of the Turks in the field of building construction technology.

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2) Write a note on papermaking in India.

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14.6 MILITARY TECHNOLOGY

In this Section, we will deal with three things only:

i) stirrup,

ii) horseshoe, and

iii) gunpowder.

14.6.1 Stirrup

It is now an established fact that iron-stirrup (*rikab*) was unknown in India. For that matter, there is no Sanskrit word for stirrup. Perhaps surcingle, 'big toe stirrup' and 'suspension hooks' were used in India, but stirrup proper was the contribution of the Muslims. This stirrup was first used in China around 6th century CE, and

later it diffused into Persia and other Islamic countries during the next century. A Persian source on warfare during the reign of Iltutmish employs the term *rikab* (For the military advantages of stirrup, see the passage in the box).

> The history of the use of the horse in battle is divided into three periods: first, that of the charioteer; second that of the mounted warrior who clings to his steed by pressure of the knees; and third, that of the rider equipped with stirrups. The horse has always given its master an advantage over the foot man in battle, and each improvement in its military use has been related to far-reaching social and cultural changes.
>
> Before the introduction of the stirrup, the seat of the rider was precarious. Bit and spur might help him to control his mount; the simple saddle might confirm his seat: nevertheless, he was still much restricted in his methods of fighting. He was primarily a rapidly mobile bow-man and hurler of javelins. Swordplay was limited because 'without stirrups your slashing horseman, taking a good broadhanded swipe at his foe, had only to miss to find himself on the ground'. As for the spear, before the invention of the stirrup it was wielded at the end of the arm and the blow was delivered with the strength of shoulder and biceps. The stirrup made possible – although it did not demand – a vastly more effective mode of attack: now the rider could lay his lance at rest, held between the upper arm and the body, and make at his foe, delivering the blow not with his muscles but with the combined weight of himself and his charging stallion.
>
> The stirrup, by giving lateral support in addition to the front and back support offered by pommel and cantle, effectively welded horse and rider into a single fighting unit capable of a violence without precedent. The fighter's hand no longer delivered the blow: it merely guided it. The stirrup thus replaced human energy with animal power, and immensely increased the warrior's ability to damage his enemy. Immediately, without preparatory steps, it made possible mounted shock combat, a revolutionary new way of doing battle.
>
> **Lynn White, *Medieval Technology and Change*, Londan, 1973, pp. 1-2.**

14.6.2 Horseshoe

While some scholars of Medieval India look at the stirrup as a contributory factor to the series of military successes that the Turks achieved in India – at least in the initial stages of their invasions – horseshoe (*nal*) has been treated as its poor cousin.

Domestication of horse was not enough. With the view of controlling the horse for riding, some equipments were called-forth; viz., simple **bridle**, bitted bridle, saddle with **pommel** and cantle and, of course, the stirrup.

Nailed horseshoe was a late comer. It is interesting to note that horseshoe is the only equestrian accoutrement which does not have direct bearing on controlling the animal like other outfits. If so, then, why shoeing was needed? The answer lies in the hoof, the most vulnerable part of the **equine** anatomy: The horse's hoof is a constantly growing horny structure like the human nails, susceptible to breaking, splitting and shelling. In their original natural habitat horses keep their feet worn down and, hence, trimming is unnecessary. But tamed and domesticated horses when in use, require shoeing, specially in moist latitudes. A horse with footsore will limp and, hence, of little use to the rider. Shoeing offers two advantages: first, it gives a better grip on soft ground; and secondly, the hooves get protection on rough ground. It is in this context that we can appreciate the worldwide **axiom** of horsemen: "No foot, no hone". A lame cavalry horse may often be worse than no horse at all.

Horseshoes have not been reported from any archaeological site excavated in India. It is now an incontrovertible fact that horseshoes were foreign importations, brought by the Turks when they came to India. The Arabic/Persian word for the shoe is *na'l* (the farrier or shoesmith is *na'lband* and shoeing is *na'lbandi*).Sanskrit

literature on horses (*Salihotra*) do not mention shoeing (a case similar to stirrup and spinning-wheel). It is no accident, then, that shoeing in the past was largely monopolized by Muslim artisans. At any rate, our sources yield information for cold-shoeing only – not hot-shoeing as it was practised in Europe.

14.6.3 Gunpowder and Fire-arms

Many decades ago, some scholars, both European and Indian, were keen to prove that gunpowder and fire-arms were used in Ancient India. Among the Sanskrit sources, the *Sukraniti* became the focal point from which support was drawn. However, sobriety and maturity prevailed when other scholars dismissed their inferences, especially after careful examination of the *Sukraniti*. Again, untenable attempts were also made to show that the Muslims who came to India following the invasions of Sultan Mahmud of Ghazna used fire-arms.

Gunpowder consists of saltpetre, sulphur and charcoal, and it was first invented in China. Later, it spread to the Islamic society. The immigrant Turks brought gunpowder to India perhaps in late 13th or early 14th century. But it must be pointed out that even by the reign of Sultan Firuz Shah Tughlaq its only use was for **pyrotechny** or fireworks (*atashbazi*), not for fire-arms or for propelling cannon-balls. Fire-arms were used for the first time during the second half of the 15th century in some regions of India like Gujarat, Malwa and the Deccan. At any rate, the use of fire-arms on a regular basis was introduced by the Portuguese when they came to Calicut in CE 1498, and by Babur in North India in the early 16th century.

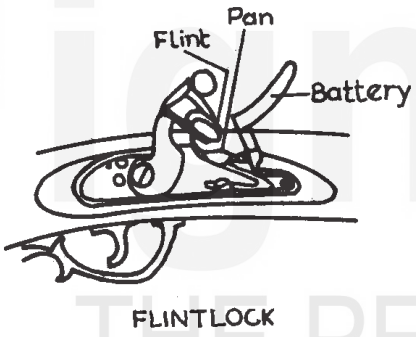

Figure 14.9: Flint Lock

Babur used guns and cannons in battles against the Rajputs and Afghans. These guns were actually matchlocks. Europe knew of two more devices to fire a gun: wheel-lock (1520s) and flint-lock (1620s) in which matchcord was dispensed with. Abul Fazl claims the manufacture of handguns without matchcord in Akbar's arsenal, but he is silent on the alternative mechanism. This could be a flint-lock because wheel-lock even in Europe was employed for pistols. At any rate, these handguns (**flint-locks**) were produced on a limited scale, most probably for Akbar's personal use only because we are told that Indians in North India were scarcely familiar with this technique during the early decades of the seventeenth century. In fact, Mughal-paintings regularly depict matchlocks down to Aurangzeb's times.

Figure 14.10: Medieval Swords

European pistols were available at Burhanpur for sale as early as CE 1609. Sometimes Europeans gave pistols in gifts to Indians. But the Indians did not learn the art of **wheel-lock**. Cannons of various sizes were manufactured in India for the Indian rulers.

We need not go into details about the numerous traditional weapon – offensive and defensive – like swords, spears, daggers, bows and arrows, shields and armours, etc. It is interesting to know that the Indians in general preferred curved swords, in contrast to the European's straight double-edged **rapiers**. The Marathas, however, late in the seventeenth century took a liking to European swords.

For cleaning gun-barrets, Abul Fazl writes:

> Formerly a strong man had to work a long time with iron instruments in order to clean matchlocks. His Majesty [Akbar], from his practical knowledge, has invented a wheel, by the motion of which sixteen barrels may be cleaned in a very short time. The wheel is turned by a bullock.

At another place, once again, Abul Fazl credits Akbar with the invention of a mechanism by which seventeen guns were joined in such a manner as to be able to fire them simultaneously with one matchcord.

14.7 TINCOATING

Domestic utensils of copper (and brass) are prone to acid poisoning from sour food kept in them. A coating of tin is given to them frequently, specially inside, to protect them from the chemical action of acid food. This craft came to India along with the Turks. There is no reference to this technique in Ancient India. Apart from literary sources, the archaeological evidence comes from an excavation site in the South (near Kolhapur) where a copper container with tincoating both on its interior and exterior was discovered. Since, this vessel was found in association with the coins of the Bahmani dynasty (CE 1347-1538), it must belong to that period.

The craftsman who does tincoating is called *qala'igar* (*qalai*=tin).Tin (*ranga*) is a highly malleable and ductile metal, and its coating over metallic vessels protects the latter from corrosion and chemical poisoning. The craftsman first cleanse the utensils to remove dirt, etc. After this, the vessels are mildly heated over a small furnace with charcoal. Small bellows are used to maintain the required degree of heat. The next process is to apply a mixture of pure tin and salammoniac (*nosadar*) with a cotton pad. The salammoniac vapourizes leaving a metallically clean surface. Meanwhile the tin melts and by constant rubbing of the pad it is evenly distributed over the whole vessel – outside and inside.

Abul Fazl refers to tincoating in the *Ain-i Akbari*. He says that copper utensils of the royal kitchen are tinned twice a month, but those of the princes, etc. once.

Check Your Progress-4

1) Define the following:

Stirrup .....

.....

Horseshoe .....

.....

2) Fill in the blanks:

a) Gunpowder was invented in.....

b) Fire-arms were first used in India during the.....

c) Technique of tincoating in India was introduced by the.....

14.8 GLASS MANUFACTURE

Glass is a complex artificial industrial substance. We should not confuse it with crystal, quartz, **obsidian** glass, glaze and **faience**. That glass was not scarce in India has been ably shown by M.G. Dikshit (*History of Glass*), but he admits that Indian glass objects "did not range or go beyond the manufacture of tit-bits like beads and bangles".

With the arrival of Muslims, pharmaceutical **phials**, jars and vessels of glass came to India from the Islamic countries, but there is no evidence to show that Indians had started fabricating these objects in imitation.

During the 16th and 17th centuries, a variety of glass articles were brought to India by the Europeans. All these were new for us: for example, looking-glasses (mirrors made of glass). We know how to make mirrors of metals (bronze and copper) but not of glass. Another object was spectacles made of glass lenses. The Europeans gave these things to Indians as gift and, sometimes, they also sold them (but the market was very limited). Thus, the Indians started using European glass articles without manufacturing them during the period under study.

It seems that the technique of fabricating sand or hour-glass was known in India during the 15th century, but the Mughal paintings exhibit European-made sand-glasses only, which were brought to India by the Europeans. However, the positive evidence for its manufacture in India comes from the second half of the seventeenth century.

Apart from these, we got from Europe drinking-glasses, magnifying or burning glasses and prospective glasses (telescopes). Since the latter were made of glass lenses like the spectacles, there was no question of their indigenous manufacture during the seventeenth century.

14.9 SHIPBUILDING

The entire vessel in medieval times everywhere was constructed of wood. Various methods were employed to join the **planks**. One of these was rabbeting which was widely practised in India. This was basically on the tongue-and-groove principle: the 'tongue' of one plank was fitted into the 'groove' of another. The next step was to smear the planks with indigenous pitch or *tar*, and lime with the double purpose of stopping up any **fissures** and preserving the timber from sea worms. Fish-oil was also used for doubing the planks. The Indians did not adopt the European method of caulking – a technique for making joints or seams of the planks tight or leakproof by forcing oakum (made of loose fibre or untwisted old ropes, etc. mixed with melted pitch) between parts that did not fit tightly. The reason was caulking did not have any technical superiority over the indigenous method for performing the same task. Moreover, caulking was more expensive than the Indian practice.

Prior to the European advent, the planks of ships and boats were joined together by stitching or sewing them with ropes made of coir, or sometimes with wooden nails. The Europeans were using iron nails and **clamps** which made their vessels stronger and durable. The Indians lost no time in adopting the new technique. Around CE 1510, Varthema noticed "an immense quantity of iron nails" in Indian ships at Calicut. Abul Fazl (CE 1593-94) informs us that for a ship of Akbar 468 *mans* (maund) of iron were used. Some Mughal paintings establish the presence of iron nails, strips and clamps for constructing vessels.

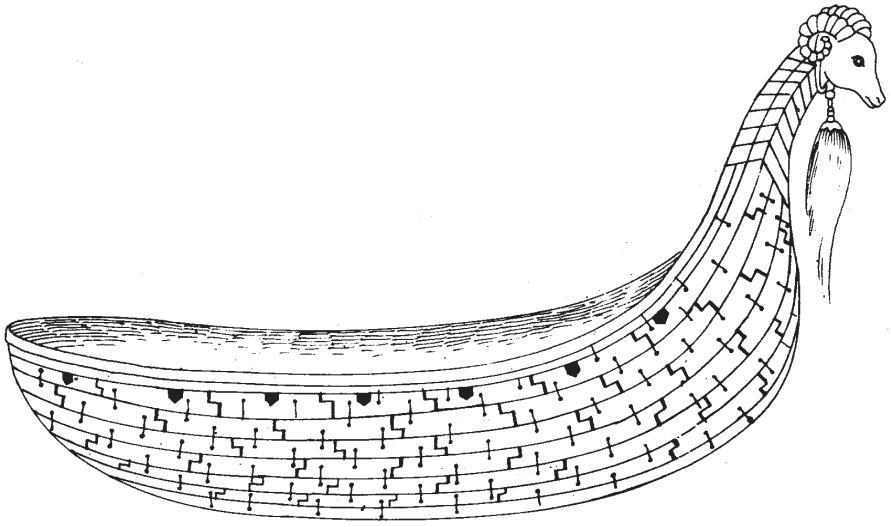

Figure 14.11: Rabetting and the use of ironnails to join the planks

Similar positive response to European iron anchors is evidenced during 'the seventeenth century. Earlier, anchors were made of big stones.

The Indians used buckets to bail out the leaked water in the ships. However, the European iron chain-pumps started to be used in India, though not widely, during the second half of the seventeenth century. But these were not manufactured in India: they were purchased or borrowed from Europeans.

For navigation, magnetic compass was a great contribution which the Muslims diffused in India.

14.10 DISTILLATION

There has never been any society that did not produce intoxicating drinking substances. *Soma* in the Vedic Age was one such intoxicants. There are two ways to get wine: fermentation and distillation. The first was widely known in the world. Wine was procured by fermenting rice, sugarcane juice, *mahuwa* flowers, etc.

Distillation was a late comer. Some think that it was first discovered in Italy in the 12th century CE. For India, there is an opinion that distillation was a contribution of the Turks.

This view is not acceptable. Excavations at Sirkap (Taxila) and Shaikhan Dheri, now in Pakistan, have yielded distillation apparatus like these condensers and parts of still, many of which are now lodged in the Taxila Museum. This apparatus belong to the period from 2nd century BCE to 2nd century CE, much before the Turks came to India. However, we may give credit to the Turks for its eastward diffusion.

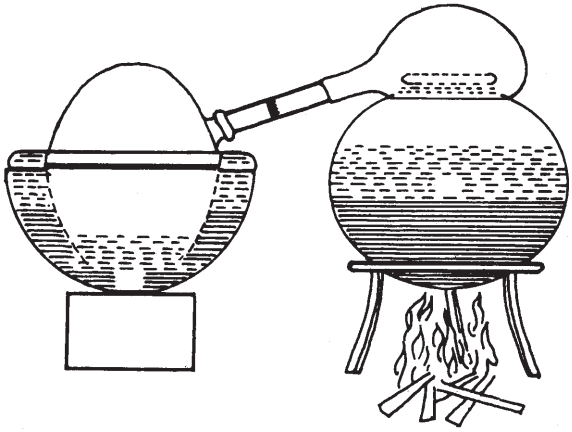

Figure 14.12: Reconstruction of Distilling Apparatus (after Marshall, 1953)

14.11 METALLURGY

We give below the main features of metallurgical practices in India:

i) The fuel for smelting consisted of wood charcoal (coal was not known). Thus, smelting was generally carried out at places which were near the source of wood supply.

ii) The smelters used small furnaces which perhaps did not have refractory or heat-resistant clay.

iii) The bellows were ribless and small which did allow efficient air-blast to generate very high temperature in the furnaces to reduce the ore to a totally liquified state.

iv) In case of iron and bronze, the metal was melted in diverse small furnaces (sometimes eight in number) wherefrom the molten material went to the mould. Since the quality of the molten metal in each furnace was not necessarily the same, the fabricated object could not have always been of high quality.

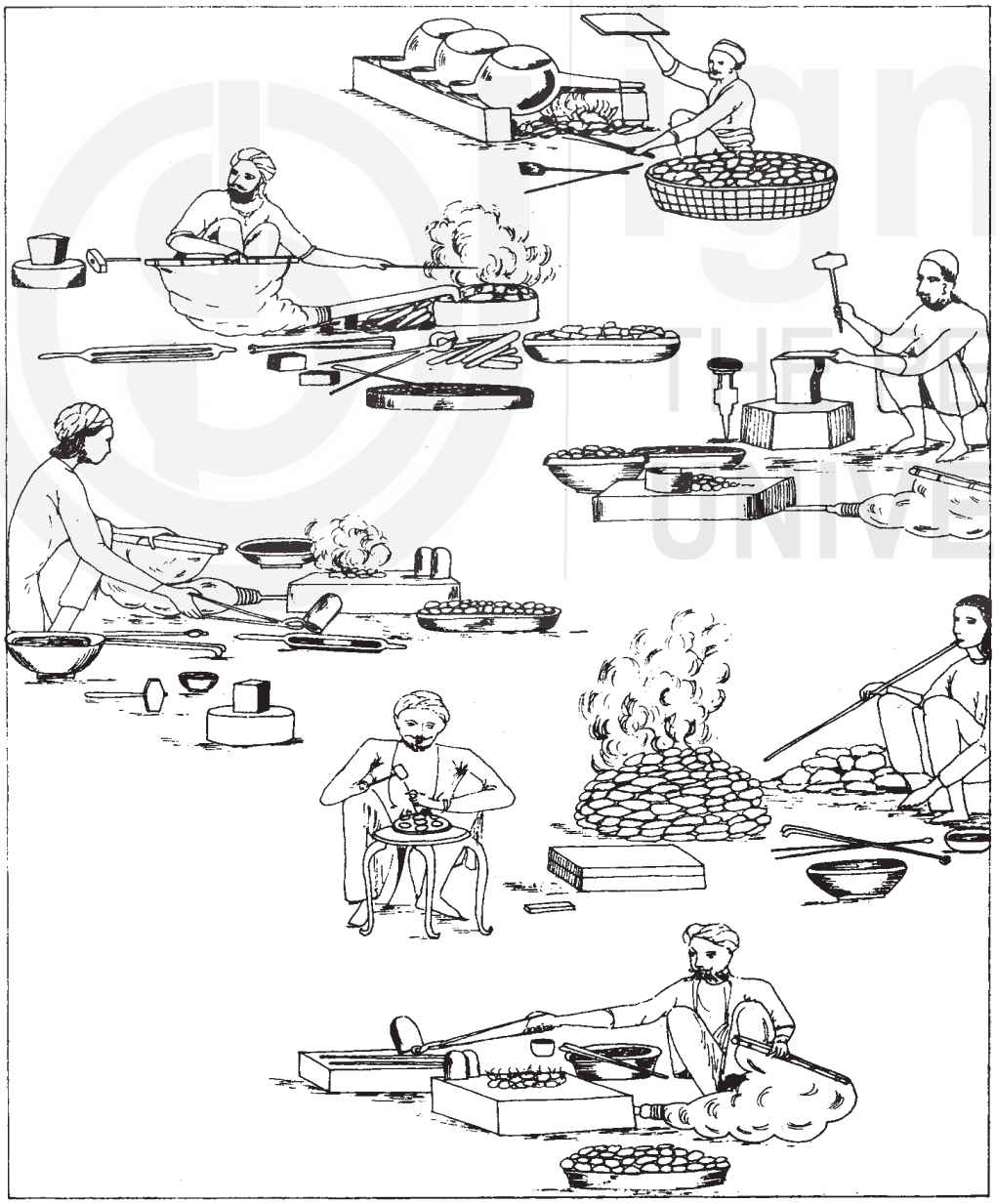

Figure 14.13: Processing of Metal: Smelting; Use of Charcoal; Furnaces; Bellows (*Ain-i Akbari*)

Abul Fazl describes the technique of making iron cannons and handgun barrels at Akbar's arsenal. Perhaps these techniques were newly invented. We do not know whether improvements were made during the subsequent period. Cannons were made of bronze, brass and iron.

Zinc metallurgy seems to have started in India somewhere around twelfth century CE. Abul Fazl mentions Jawar (modern Zawar) in Rajasthan where zinc was procurable. Archaeological studies near Zawar have revealed the presence of sealed clay retorts for zinc distillation (which, condensed/cooled, yielded the metal).

Copper mines were located at Khetri in Rajasthan. Tin was not a natural product of a country: it was imported from other Asian regions. Bronze was in use right from the days of the Indus Valley culture. Alloys like brass (copper and zinc or tin) were fabricated in India.

One must mention here the production of the true "**wootz**" iron in India from *c.* 400 BCE, especially in Andhra Pradesh. Probably "wootz" is a corruption of the Telugu word "ukku". It was exported to centres of swordmaking like Damascus in Syria (called Damascene swords).

14.12 PRINTING PRESS

It is amazing that the Chinese knowledge of wooden-block printing did not evoke even a ripple of response in India in spite of frequent communication between the two countries in the past. European movable metal types were brought to Goa around CE 1550 by the Portuguese. The latter started printing books on Christian saints, sermons, grammars and vocabularies in the Marathi and Konkani languages and dialects, but in Roman script rather than in the Devanagari script.

Emperor Jahangir is once reported to have expressed doubt about types being cast in Persian or Arabic scripts during a discussion with the Jesuits, whereupon the latter promptly showed him a copy of the Arabic version of the gospel, probably printed at Vatican in CE 1591. This topic was not brought up again by Jahangir.

In CE 1670s, Bhimji Parak, the chief broker of the English Company at Surat, took a keen interest in this technology. A printer was sent to India in CE 1674 at Bhimji's request, along with a press at the latter's expense. Bhimji intended to contrive types in "banian characters after our English manner", but it could not be feasible since the English printer did not know type-cutting and **founding**. No type cutter was sent from England to assist Bhimji. Nevertheless, Bhimji persisted in this endeavour to realize his dream of a printing-press with Devanagari **fonts**. He employed his own men, obviously Indians, to do the job. The English Factors at Surat testify (CE 1676/77) that, "we have seen some paper printed in the banian character by the persons employed by Bhimji which look very well and legible and shows the work feasible". But then, at that crucial moment, Bhimji lost heart and abandoned the project midway.

14.13 TIME-RECKONING DEVICES

The history of horology unfolds a variety of devices adopted by mankind in different countries. Among them, **gnomons**, sundials, clepsydras (water-clocks), sand-glasses, mechanical clocks and watches stand out as the most significant contrivances for time-reckoning with varying degrees of accuracy.

In India, during the sixteenth and seventeenth centuries, clepsydras of the sinking-bowl variety appear to have been the most commonly used device for measuring

time, at any rate, in urban centres. The Persian term for the bowl was *tas*, while *tasgharial* – denoted the whole mechanism (bowl and gong). The Indian word *gharial* is derived from the gong that was struck with a **mallet** to announce the time indicated by the sinking-bowl. Water-clock is mentioned during the Delhi Sultanate in Afif's *Tarikh-i Firuz Shahi* which related the installation of a *tasgharial* by Sultan Firuz Shah Tughlaq at Firuzabad during the second half of the fourteenth century. Babur also describes the mechanism in the *Baburnama*. Abul Fazl, too, takes note of the details.

Much before the Mughals, the Europeans had invented the two most essential features of an ordinary mechanical clock – the weight-drive and escapement. Europeans' clocks and watches were often given in gift to Indians, especially the elite groups (Jahangir was presented a watch by Sir Thomas Roe, but the Emperor's memoirs does not mention this fact). The Jesuit church at Agra had a public clock-face with a bell whose "sound was heard in every part of the city". Notwithstanding the exposure of a substantial cross-section of Indians to European mechanical clocks and watches for a long time, there is no evidence to indicate its acceptance among any social group of Indian society for general use. These were mere toys, and novelties for the Indians who received them "diplomatic" or ordinary gifts. The one important reason for non-acceptance was the incompatibility of the Indian time-reckoning system with that of Europe at that time. In Europe, the system of twelve equal double-hours prevailed, while the Indian system consisted of 4 quarters (*pahr*) in the day from sunrise to sunset, and another 4 quarters in the night from sunset to sunrise. Further, each *pahr* was divided into *gharis* of 24 minutes each. Thus, the Indian system had 60 "hours" (of 24 minutes) to the full day, and the European consisted of 24 hours of 60 minutes each.

14.14 MISCELLANEOUS TECHNOLOGIES

i) The Indians did not employ metallic (copper) boilers to refine saltpetre like the Europeans; the former continued with earthen pots to do the job.

ii) Oxen-drawn carts were in common use, especially for transporting commercial goods. Horse-drawn carriages were very rare: they were meant only for passengers. Sir Thomas Roe presented to Jahangir an English coach drawn by four horses. The Emperor enjoyed a ride in it (he called it *rath farangi*). The sovereign and some nobles got such coaches built by Indian carpenters for their use. But this interest was short-lived; it did not catch on during the seventeenth century.

iii) One chemical discovery was made in the early years of Jahangir's reign. It was the rose-scent ('*itr Jahangir*). The Emperor records in his Memoirs (*Tuzuk-i Jahangiri*):

> This '*itr* is a discovery which was made during my reign through the efforts of the mother of Nur Jahan Begum. When she was making rose-water, a scum (*charbi*) formed on the surface of the dishes into which the hot rose-water was poured from the jugs. She collected this scum little by little; when much rose-water was obtained a sensible portion of the scum was collected. There is no other scent of equal excellence to it. In reward for that invention, I presented a string of pearls to the inventress Salima Sultan Begum... gave this oil (*roghan*) the name of '*itr Jahangiri*.

iv) Another chemical discovery was the use of saltpetre for cooling water. Abul Fazl comments that saltpetre, which in gunpowder produces the explosive heats, is used as a means for cooling water. He also gives the details of how to do so.

v) Emperor Akbar is reported to have invented an oxen-drawn cart which, when used for travelling or for carrying loads, could grind corn also. For the latter purpose, however, watermill was scarcely used in India under the Mughal rule. One Mughal painting (CE1603) depicts an undershot watermill to illustrate a story set outside India proper. Even windmill (*asiya-i bad*; *pawan chakki*) for grinding corn was very rare; one was erected at Ahmadabad in the seventeenth century whose partial remains could be seen there. Ordinarily, handmills made of two stones were used for this purpose. It was a very old practice.

Check Your Progress-5

1) What are rabbeting and caulking? Why did Indians show no preference to adopt caulking technique in shipbuilding.

.....

.....

.....

.....

2) Why did Indians show reluctance to adopt the European time-reckoning devices?

.....

.....

.....

.....

3) Fill in the blanks:

i) Itr Jahangiri was invented by .....

ii) Saltpetre was used for .....

iii) Indian buildings didi not have ..... and ..... in their houses.

iv) Indians used ……..... boilers to refine saltpetre.

14.15 SUMMARY

You must have learnt from this Unit something about the techniques or methods by which the people during the Delhi Sultanate fabricated or produced articles of daily use. Concerning agriculture now you know about ploughs with iron share, methods of sowing, irrigational devices, harvesting, threshing and winnowing. In the Section on textile crafts, you have read about ginning, carding, spinning, weaving, dyeing and printing. As regards building construction, lime mortar, true arches and domes/vaulted roofings are most important. Papermaking and bookbinding were new crafts. Similar is the case of military technology with reference to stirrup, horseshoe and gunpowder. Tincoating, too, was a new technique. Glass technology was on a low level in this period. Now you know that iron was not used in shipbuilding prior to the Portuguese advent. Fermentation and distillation were used for preparing intoxicants.

Let us sum up the new techniques or crafts brought by the Muslims to India: *saqiya*, spinning-Wheel, pit-loom, lime mortar, true arches, dome, paper and bookbinding, stirrup, horseshoe, gunpowder, tincoating and mariner's compass. The Indians accepted all these without hesitation or opposition.

This Unit also introduced you to several aspects of Science and Technology in India during the Mughal rule. The treatment of the subject-matter was on two levels: (a) indigenous development, and (b) Indian response to European Science and Technology.

No noteworthy contribution was made by the Indians in Science in this period. As for technology, you must have noticed that some inventions were made and new methods employed, especially in the military sector. In the chemical sector, too, rose-scent and the use of saltpetre for water-cooling were entirely new discoveries.

The most important and interesting aspect of this Unit is the exposure of the Indians to European Science and Technology. The Indian response in this respect was not uniform. For example, while in shipbuilding we come across some positive responses it was not so with regard to glass technology. Positive, negative and indifferent responses varied from one technology to another due to diverse valid reasons. As for Science, the Indians do not appear to have profited from the European experience.

14.16 KEYWORDS

Accoutrement	Soldier's equipment other than weapons and clothes
Alum	White mineral salt used in dyeing
Arch	Curved Structure
Axiom	Statement that is accepted without argument
Bridle	Part of a horse's harness
Clamps	A device designed to bind or constrict or to press two or more parts together so as to hold them firmly in their relative position
Contraption	Device/apparatus
Corbelled	A technique to cover roof spaces by projecting successive courses of stones (See **Theme IV, Unit 17**)
Equine	Like a horse
Farman	Order of the Sultan
Faience	Earthenware decorated with opaque coloured glaze
Fissures	Crack of some length and considerable depth usually occurring from some breaking; a narrow opening
Flint(s) lock	A lock for gun used chiefly in the 17th and 18th centuries having a flint fixed in the hammer that on striking the battery of the pan ignited the priming which communicated its fire to be the charge through the touchhole
Fonts	The act or process of casting or founding; a set of any sort of typological material
Founding	The act of melting and casting

Gear	Set of toothed wheels which fit into another set to transmit power
Gelatinous	Like jelly
Gnomons	Pointer on a sundial; an object that by the position or length of its shadow serves as an indicator especially of the hour of the day
Glutinous	Sticky protein substance
Immersion	Put under the surface of a liquid
Loom	Instrument for weaving cloth
Mallet	A hammer that has a cylindrical typically barrel-shaped head of wood or of other soft material
Obsidian	Volcanic glass that is generally black, banded or spherulitic and has a marked conchoidal fracture, a bright lustres, and a composition similar to rhyolite but usually with more water
Phials	A small glass bottle for medicine
Pit-loom (Treadle loom)	Loom worked by the foot
Planks	Long flat piece of sawn timber
Pommel	Rounded part of a saddle
Pyrotechny	Fire works
Pulley	Wheel with grooves for ropes
Ramp	Slope
Rapiers	A straight two-edged sword especially of the 16^{th} and 17^{th} centuries with a narrow pointed blade used chiefly for thrusting and heavier than the 18^{th} century small sword
Resinous	Sticky substance specially from fir and pine tree
Slake lime	Calcium Hydroxide (C_O $(OH)_2$: Its formed by the action of water on Calcium Oxide
Tabby	Cat with grey or brownish fur and dark stripes
Quicklime	Calcium Oxide (C_a O) made by heating Calcium Carbonade (limestone)
Shovel	Tool like a spade with curved edges
Vaulted roof	Arched roof
Voussoirs	Stones used in making an arch (other than the key stone)
Wheel-lock	A gunlock in which sparks are struck from a flint
Wootz	Kanarese *ukku* steel; a steel made in India by crude methods in small crucibles according to the old process for making fused steel

14.17 ANSWERS TO CHECK YOUR PROGRESS EXERCISES

Check Your Progress-1

1) See Sub-section 14.2.4

2) See Sub-section 14.2.4

3) (i) × (ii) ✓ (iii) ✓ (iv) ×

Check Your Progress-2

l) See Sub-section 14.3.1

2) See Sub-section 14.3.2

3) See Sub-section 14.3.2

Check Your Progress-3

1) See Sub-sections 14.4.1, 14.4.2

1) See Sec.14.5

Check Your Progress-4

1) See Sub-sections 14.6.1, 14.6.2

2) (a) China b) Second half of the 15th Century c) Turks

Check Your Progress-5

1) See Section 14.13 Discuss that Indians were aware of the European mechanical clocks, but they had different time-reckoning system. Elaborate it.

2) See Section 14.9

3) i) Nur Jahan's mother, ii) Cooling Water, iii) Window panes, chimneys, iv) Earthen

14.18 SUGGESTED READINGS

Habib, Irfan, (1969) 'Presidential Address', *Proceedings of the Indian History Congress,* Varanasi.

Habib, Irfan, (1978-79) 'Technology and Barriers to Social Change in Mughal India', *Indian Historical Review,* Vol. V, Nos.1&2.

Qaisar, A.Jan, (1982) *Indian Response to European Technology and Culture* (New Delhi: Oxford University Press).

14.19 INSTRUCTIONAL VIDEO RECOMMENDATIONS

Urban Economy and Technology during the Delhi Sultanate
https://www.youtube.com/watch?v=pT8Jv400e-E

Bulls Fetching Well Water | Ancient Technology System in India and Pakistan
https://www.youtube.com/watch?v=fTvEJDBMsSo

UNIT 15 TOWNS, CITIES AND GROWTH OF URBAN CENTRES*

Structure

15.0 OBJECTIVES

The study of urban history of medieval India is an important and equally fascinating subject. In this Unit, you will study the development of urban economy and urban centres during the medieval period. After reading this Unit, you should be able:

- to learn that in the Delhi Sultanate two interrelated developments occurred:
  a) a considerable increase in the size and possibly in the number of towns, and
  b) a marked rise in craft production.

You will also:

- have an idea of urbanisation in medieval India along with some of the most talked about theories on urbanisation,
- be able to list the general physical characteristics of medieval towns, and
- discuss the various features of medieval urban life in India.

15.1 INTRODUCTION

In this Unit we propose to introduce you to the urban history of Medieval India. The urban history of medieval India, despite being a subject of great importance, has not received adequate attention by the scholars. That the subject has multifarious facets is evident from the range of topics that possibly form its domain. The expansion of urban centres, their actual size, urban economy and the society that an urban centre seems to have, are some of the notable examples.

* **Prof. Shireen Moosvi, Centre of Advanced Study in History, Aligarh Muslim University, Aligarh; and Prof. A.R. Khan, Prof. Ravindra Kumar and Prof. Abha Singh, School of Social Sciences, Indira Gandhi National Open University, New Delhi. The present Unit is taken from our earlier Courses EHI-03: India: *From 8th to 15th Century,* Block 6, Unit 21; and EHI-04: *India from 16th to Mid-18th Century* Block 7, Unit 28.**

The available evidence suggest that the urban economy on the eve of the Ghorid conquest was on a low ebb. The towns were fewer in number and smaller in size in the centuries preceding the establishment of the Delhi Sultanate. D.D.Kosambi shows that even the capital was a camp city on the move. The higher ruling class wandered from place to place along with the army while the lower ruling class was almost completely ruralized. This view of urban decline has been supported by R.S. Sharma who has convincingly reasserted his theory of urban decay with the help of enormous archaeological data painstakingly collected. This theory of decay of towns is further corroborated by the evidence of sluggish trade. The near complete disappearance of gold and silver currencies and the almost total absence of foreign coins in the Indian coin-hoards of the period are indicators that the foreign trade was at a very low scale. Moreover, the fact that not even the coins of various regional dynasties are found in the coin-hoards of other regions suggests that inland commerce was not widespread. All this scenario changed almost immediately with the establishment of the Delhi Sultanate. The archaeological and numismatic evidence corroborate the literary evidence of growth of towns and increase in commerce. This led Mohammad Habib to postulate a theory of 'Urban Revolution'.

In this Unit besides the theoretical generality such as approaches to the problem of urbanisation, we have mainly focussed on the description pertaining to the urban landscape and life. It should be understood here that in this kind of problem-oriented study our approach would mainly be decided by the type of questions we attempt to answer. You would thus find that the details of town life and society as well as their layout given by us have emanated mainly from the way we have tackled the question of urbanisation in Medieval India.

15.2 APPROACHES TO STUDY THE MEDIEVAL TOWNS

Urbanisation has been seen by scholars both in terms of the physical growth of a town as well as a particular way of life. Of late, much work along both these lines of enquiry has been done in the West. Unlike this, however, the study of urban history in India is still in the developing stage. In the following Sections, we offer a brief account of the main theoretical development and the major lines of enquiry followed to date.

Before discussing the evidence of increase in number and size of towns, we must first understand what we mean by town. There are two simple definitions of a town: (a) the usual modern definition of a settlement of 5000 or above, and (b) a settlement where an overwhelming majority of population (say above 70%) is engaged in occupations other than agriculture. The two definitions are not mutually exclusive but the later covers towns of smaller size also.

Thus, town in contrast to a village, is now, by consensus, seem to possess two basic features: dense concentration of population within a defined and also limited space, and a predominantly non-cultivating character of this population. A town thus has a definite man-space ratio and an essentially heterogenous occupational pattern.

For the emergence of towns, in medieval India, several explanations have been put forward. The causative factors inherent in these explanations postulate the emergence of mainly four types of urban centres:

i) administrative

ii) religious

iii) military/strategic

iv) market

The administrative towns obviously functioned primarily as seats of governance. For the Mughal Empire, towns like Delhi and Lahore, come under this category. The religious centres were pre-eminent pilgrim attractions, for example, Varanasi and Mathura. The military or strategic towns developed essentially as military cantonment, and, in due course of time attracted civilian population also. The towns like Attock and Asirgarh fit this description. Finally, there were urban centres as the focus of large-scale commercial activities or were predominantly production centres. Sometimes both these activities together characterised an urban centre. We have, for the Mughal Empire, towns like Patna and Ahmadabad falling under this category.

Here two things should be noted. An average town in the Mughal Empire was in fact an extension of the village in the sense of social unities and attitudes. This rural-urban continuum is thus a notable feature of urbanisation during the Mughal period. Moreover, given the diversity of urban economies in the Mughal Empire, the stereo type of an Indian town would be a misnomer. Thus, the other important thing to note is that the character of two apparently similar cities (at least functionally) would often be different. The emergence of an urban centre, therefore, was dependent on a variety of factors relating to its geographical location and historical situation.

15.3 GROWTH OF TOWNS DURING THE 13th-15th CENTURIES

While the archaeological evidence available for earlier period is not forthcoming from the 13th-14th centuries owing to the much less attention paid to medieval archaeology, the literary evidences testify growth of urban centres. Some major towns mentioned in the contemporary sources are Delhi (the capital), Multan, Anhilwara (Patan), Cambay, Kara, Lakhnauti and Daulatabad (Deogiri). Lahore was a big town but decayed after the Mongol invasion in the 13th century. However, in the 14th century it flourished again. While not even a guesstimate of the population of any town is available in our sources there are reliable indications to assume that at least some of these were cities big enough by contemporary standards. Ibn Battuta, who visited Delhi in 1330, describes it as of enormous extent and population, the largest city in the Islamic East in spite of the fact that Muhammad Tughlaq had shifted much of its population to Daulatabad. He describes the latter too, as large enough to rival Delhi in size. Some new towns were established during the period, such as Jhain (Chhain) in Eastern Rajasthan that was named 'Shahr Nau' during Alauddin Khalji's reign (1296-1316).

Factors for Urban Expansion

The strength of the invader, of course, lay in combination and not in dispersal in an unfamiliar land and, thus, in initial stages, it was but natural for the members of the ruling class to prefer to stay at their *iqta* headquarters along with their cavalry. These *iqta* headquarters having the concentration of cavalry, its hangers-on and the retinue and household of the *muqti* thus emerged in the early phase as camp cities. Most of the 13th century towns are infact defined as *iqta* headquarters in our sources; for example, Hansi, Kara, Anhilwara, etc. These towns were to be fed and provided for. In the beginning, the troops had to go for realising *kharaj* by

plundering the surrounding villages; but gradually by the 14th century, as pointed out by Moreland, cash nexus developed. The revenue was realised in cash from the peasants who were thus forced to sell their produce at the side of the field. The merchants catered to the needs of towns giving rise to what we will discuss below as 'induced trade'.

The ruling class coming from a different cultural milieu had needs of leisure and comforts of a different type; they wanted songs in Persian and dances of a different style, books, silk to wear and arcuate light architecture (not the stone edifices). Out of the resources that were indeed enormous by contemporary standards at its command, the new rulers naturally wanted to get luxuries and comforts of their taste which encouraged immigration from Islamic culture area. These immigrants were not only soldiers, but craftsman, artisans, singers, musicians, dancers, poets, physicians, astrologers and servicemen as described by Isami. The immigrant master-craftsman most probably introduced new techniques and articles of technology (You have already studied about this in detail in **Unit 14**). In due course, Indian artisans must have learnt the new crafts.

Check Your Progress-1

1) Enumerate the factors responsible for rise of towns during the medieval period.

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2) Mark the following statements true (✓) or false (×).

a) The pre-1200 coin-hoards do not usually contain foreign coins. ( )

b) Lahore remained a big town during the Delhi Sultanate. ( )

c) Ibn Battuta provides population estimates for Delhi. ( )

15.4 URBAN MANUFACTURES DURING THE SULTANATE PERIOD

It seems that the urban craft production received a twofold impetus with the establishment of the Delhi Sultanate. First, the Sultanate ruling class remained town-centered and spent the enormous resources it appropriated in the form of land revenue mainly in towns, either on buying services or procuring manufacturers. Even the money spent on the service sector partly went to help the urban craft sector through multiplier effect. While the nobility created demand for high-priced skill-intensive luxury items, its hangers-on in all likelihood created a mass market for ordinary artisanal product.

The second factor that contributed to urban manufacturers was the introduction of a number of technological devices that reached India with the invaders. (You have learnt about them in detail in **Unit 14**). In the luxury sector, silk weaving expanded and carpet-weaving came from Persia. The other notable urban manufacture was papermaking. Perhaps a major sector of urban employment was building industry. Barani says that Alauddin Khalji employed 70,000 craftsmen for his buildings.

One may well be justified in saying that there was considerably more masonary per acre of occupied space in the towns of 1400 than in those of 1200.

Organization of Production

It is indeed important to know how production was organized. Whether the town artisans carried out production under the '**domestic system**', that is, they owned their tools, raw material and the end product and also sold their product themselves; in other words, whether they were self-employed or while tools were of their own and they worked at their homes, raw material was provided to them by the merchants, that is whether they worked under the '**putting-out system**'. The contemporary sources shed little light on these aspects. One can, however, legitimately assume that since the tools of production even after the introduction of new devices were still simple and mainly of wood and little of iron should have remained cheap. The artisan was thus master of his own tools, though varied forms of labour organization seem to be prevalent. Certain artisans hawked or hired out their services such as cotton-carder who with a bow-string on his shoulder, went door to door selling his services as is evident from the account given in *Khair-ul Majalis*. Spinning was done usually by women staying at their homes. The weavers too usually worked at their own looms at home weaving cloth for sale, out of the yarn bought or spun by themselves. They also worked on wages to weave yarn supplied to them by customers. But if the raw material was expensive such as silk or gold of silver thread, etc. and the products were luxury items, the craftsmen were to work in *karkhanas* under supervision. We have definite information about the Sultans and high nobles maintaining these *karkhanas* where the production was to cater to their own needs and contrary to D.D. Kosambi's assumption was not for market. Shahabuddin al-Umari records in his *Masalik-ul Absar* that in Muhammad Tughlaq's *karkhanas* at Delhi, four thousand silk workers worked as embroiderers. According to Afif, Firuz Tughlaq's *karkhanas* produced cloth and carpets in a big way. While there is no suggestion in our sources, we may only conjecture that perhaps merchants also maintained *karkhanas* where production was for sale.

Check Your Progress-2

1) Discuss the factors that contributed to the expansion of urban manufactures during the 13th-14th centuries.

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2) Briefly discuss the various forms of labour organisation in urban centres.

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15.5 URBAN LANDSCAPE UNDER THE MUGHALS

Even while accepting the caveat about medieval towns as stated in the preceding Section, it is possible to identify some common features of Mughal towns. We discuss them below:

Physical Configuration

Most of the towns had some sort of a fortification wall with one or more gates. The main population of the city lived within these walls. With the expansion of towns at times the cities outgrew their walls. The example of a typical Mughal town can be found in the description of Agra by John Jourdain at the beginning of the 17th century: "The citie is 12 courses long by the river side, which is above 16 miles; and at the narrowest place it is three miles broad. It is walled, but the suburbs are joined to the walls, that were if not for the gates you could not know when you were within the walls or without". Generally, the nobles or princes would build their mansions or gardens outside the gates of the town. Thus, in many cities like Delhi, Agra, Patna, Ahmadabad and Allahabad these settlements developed as suburbs.

In planned towns markets were properly laid. In others shops could be found on both sides of the main roads; with shopkeepers living behind these shops or on the first floor of the shops. Most of the towns could boast of a number of markets. Many of these markets specialised in a particular commodity. Names of various areas suggest their speciality for example in Agra – *Loha Gali* (iron objects), *cheenitole* (sugar mart), *ghallamandi* (grain market), *dal mandi* (market for pulses), *sabunkatra* (soap market), and *nil para* (indigo market). In Delhi *jauhri bazar* (jewellery market), *sabzimandi* (vegetable mart), *churiwala* (bangles market), etc; Paharganj was a wholesale market for grain.

The residential areas of towns called *mohalla* were often identified by the professional groups that resided there. A few names like *mahalla kunjrah*, *mochiwara* (shoemakers), *mahalla zargaran* (goldsmiths), *kucha rangrezan* (dyers) are notable instances. Such caste or professional names for different wards of the Mughal towns can be found in almost all the towns. In some cases these *mohallas* or wards were known by the names of influential men who resided there.

Another important feature of the town was the presence of *sarais* which were halting places for merchants or travellers. Even the smallest towns had one. The larger towns like, Delhi, Agra, Patna, Lahore or Ahmadabad had *sarais* by the dozens. Generally, nobles, royal ladies, big merchants or the state itself took up the job of constructing these *sarais*. The travellers were provided with amenities including storage space to stock merchandise. These were managed by the families of *bhatiyaras* who specialised as keepers of *sarais*. The foreigners visiting the towns were supposed to inform the city administration about their arrival and departure.

On the whole, most of the towns lacked any detailed town planning. Except the major street, other lanes and bylanes were congested and muddy. The city had its own administrative machinery and regulations to run the day-to-day administration.

15.6 COMPOSITION OF POPULATION (URBAN CLASSES)

The urban population was not a homogenous one. In our sources we come across various categories of people residing in towns. These can be classified into four broad groups:

i) Nobles and their retainers, officials of the state and troops;

ii) Persons engaged in merchantile activities (merchants, *sarrafs*, brokers, etc.);

iii) People involved with religious establishments, musicians, painters, poets, physicians, etc.; and

iv) Artisans, menials and workmen of sundry sorts.

The composition of different categories of people in different towns depended on the nature of towns, i.e., administrative centres, or commercial centres. In case of imperial headquarters, perhaps the biggest group was that of the retainers and troops of the king and nobles. Bernier (1658) estimated the total strength of Shah Jahan's great camp around 3-4 lakhs.

The situation in other administrative headquarters was also the same. The provincial governors, high nobles and other administrative officers all had their contingents, official hangers-on, servants, slaves and their families.

As most of the big towns were commercial centres of importance, the mercantile community of the towns was quite important. At Ahmadabad it was estimated that there were around 84 castes and sub-castes of Hindu merchants alone. In 1640 there were 600 brokers in Patna. Our sources mention that in big towns all the roads were lined with shops for miles. The number of grocers in Patna, a moderate town, was around 200. In a comparatively smaller town Jodhpur more than 600 shops were owned by Mahajans.

Another important group in town comprised of people associated with the professions of medicine, learning, literature, art and music. Generally, the religious and charitable grants were given in the vicinity of towns. Besides, a large number of poets, musicians, physicians also made their abode in towns because here money could be earned or patronage of the king and nobles was available.

Artisans, workmen and labourers formed one of the biggest groups in towns having large commercial activities. We have already discussed the large number of crafts practised in India during this period in **Unit 14**. The people working as artisans in various crafts may be divided in many groups:

i) The individual artisans working at their own places and selling their wares.

ii) Artisans working in the *karkhanas* of the kings and nobles, and in large-scale building construction undertaken by the kings and nobles.

iii) There was a large workforce of semi-skilled and unskilled workmen who would assist artisans or work in such large-scale enterprises as shipbuilding, diamond-mining, saltpeter and salt-making.

iv) A number of workmen were employed as domestic help and daily wage labourers.

15.7 URBAN DEMOGRAPHY

The *Tabaqat-i Akbari* (c. 1593) says that during Akbar's period there were around 120 big cities and 3200 *qasbas* (small towns). In the 17th century, with the increasing trade and commerce this number would have grown further. In the absence of records, it is not possible to find out the population of different urban centres. Irfan Habib estimates that around 15 per cent of the total population in Mughal India lived in towns.

As for the size of the individual towns is concerned, scattered references are provided by some European travellers. Sometimes an estimate is provided while at other places the size of Indian towns is compared with European towns. But these figures are available for only a few towns.

For a few important towns we provide the figures below:

Towns	Year of Estimate	Population
Agra	1609 1629-43 1666	5,00,000 6,66,000 8,00,000
Delhi	1659-66	5,00,000
Lahore	1581 and 1615	4,00,000 7,00,000
Ahmadabad	1613	1,00,000 2,00,000
Surat	1663 1700	1,000,00 2,00,000
Patna	1631	2,00,000
Dacca	*c.* 1630	2,00,000

Source: Tapan Raychaudhuri and Irfan Habib, (1982) *The Cambridge Economic History of India,* (New Delhi: Oxford University Press), Vol.1, p. 171

The above estimates show that the big towns in India would have compared favourably with the towns of contemporary Europe.

15.8 URBAN LIFE: STANDARD OF LIVING

It is an interesting fact that our sources for the study of the Mughal Empire abound with descriptions of urban life.

Standard of living in a Medieval city shows striking contrast. While the upper strata led a life-style akin to the royalty, the urban poor found it difficult to achieve the bare subsistence level. Commenting on the life-style of the common populace at Goa, Linschoten (1580-1590) says that they "are so miserable that for a penny they would endure to be whipped and they eat so little that it seemeth they live by the air; they are likewise most of them small and weak of limbs." Similar observation was made by De Laet as well. He comments that "the condition of the common people in those regions is exceedingly miserable; wages are low; workmen get one regular meal a day; the houses are wretched and practically unfurnished, and people have not sufficient covering to keep warm in winter."

Bernier, however, comments that rich merchants had a tendency to look indignant for "lest that they should be used as filled sponges". But Barbosa applauds the rich dress style of Muslim merchants of Calicut. Similarly, Pietro della Valle commented on the splendour of Surat merchants. The Hindu nobles followed the Muslim counterparts in their dresses. The Brahmans put *tilak* on their forehead and Rajput wore earrings.

Lower strata for most part were scantily clothed. Salbanke comments about the common populace between Agra and Lahore that "the Plebeian sort is so poor that the greatest part of them go naked". Similar observations are given by the European travellers for the South. Barbosa remarks about the common masses of the Vijaynagar Empire that they "go quite naked with the exception of a piece of cloth about their middle". Linschoten (1580-1590) mentions that common people of Goa, "live very poorly; go naked". Babur remarks that "peasants and people of low standing go about naked. They tie lunguta, a decency cloth, which hangs two spans below the navel...another cloth is passed between the thighs and made fast behind". "Women also tie on a cloth (*lung*), one half of which goes around the waist; the other is thrown over the head. In winter men wear quilted gowns of cotton... and quilted caps." In the South most of the people went barefoot.

The *Ain-i Akbari* and other contemporary European travellers' (Pelsaert, Pietro della Valle, etc.) accounts show that an average monthly wage of the urban workers ranged between Rs. 3 to 4.

Shireen Moosvi (1987) has shown that the purchasing power of an unskilled worker was significantly higher in 1595 than in 1867-1871-2. An unskilled worker during Akbar's reign was able to purchase much more wheat, inferior foodgrains, *ghi*, sugar, etc. than his successors did in 1867. Thus, he could have afforded better food-stuff than his counterparts did in the latter half of the 19th century. However, his purchasing power was poor in terms of clothing. The fall in the purchasing power of skilled workers in terms of foodgrains seems even more marked than it was in the case of unskilled wages in the later half of the 19th century. Thus, the urban wages were much higher in *c.* 1600 than in 1867.

Middle classes, specially the petty revenue officials, lower rank *mansabdars* and the physicians appear to be fairly prosperous. However, intellectuals were, in general, poor and depended for their livelihood solely upon their patrons.

The nobles and other upper classes in Mughal India led a luxurious life-style. We are told that an *amir's* son spent 1 lakh rupees in a day in Chandni Chowk to buy the necessities. Moreland comments that "spending not hoarding was the dominant feature of the time". Shireen Moosvi has analysed the pattern of consumption of the 'Royalty' and the nobles which clearly reflects the nature of the life-style the 'Royalty' and the Mughal nobles.

Head of Expenditure	Imperial Household (in per cent)	Noble (in per cent)
Harem	18.68	14.25
Kitchen	7.28	7.04
Wardrobe	8.93	7.32
Building	8.01	6.57
Encampment Material	5.53	4.54
Utensils	7.97	6.54
Trappings of Animals	1.41	1.16
Books and Paintings	3.60	2.96
Ornaments and Gems	23.65	19.40
Hunting Animals and Pets	6.94	5.69
Miscellaneous	1.33	1.09
Cash Grants	6.67	-
Foot Retainers	-	8.43
Arsenal and Armour	-	9.67
Beasts of Burden	-	2.65
Display Animals	-	2.69

This clearly shows that a Mughal noble spent almost 75 per cent on luxury and comforts. The luxurious life-style of the Mughal nobles resulted in their impoverishment. Bernier states that "... Omrahs: on the contrary most of them are deeply in debt; they are ruined by the costly presents made to the king and by their large establishment." "This, in turn, pressed them to extract more from the peasants than the required dues".

However, nobles appear to help the development of craft production. Shireen Moosvi has calculated that 63.26 per cent of the nobles' salaries were spent to support the craft sector. The average estimated expenses on craft production amounted to 37.38 per cent of the *jama*. Thus, the investments on craft production

were rather large. But, this was more for personal consumption than for the market. Therefore, in spite of large investments it failed to generate a "home-market".

Check Your Progress-3

1) Write a note on *sarais* in fifty words.

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2) Discuss the composition of medieval towns.

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3) Compare the standard of living of urban workers with their 19th century counterparts.

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4) Tick mark against the true (✓) and false statements (×):

i) *Bhatiyaras* were among the chief custodians of the *sarais*. ( )

ii) The *Tabaqat-i Akbari* mentions that during Akbar's reign there were 120 big cities and 3200 *qasbas*. ( )

iii) Irfan Habib estimates that 12 per cent of the population resided in the towns in Medieval period. ( )

15.9 SUMMARY

In this Unit you have studied that with the coming of the Turks trade and commerce increased. We see increase in the number of coin-hoards after 1200, and the emergence of large number of new towns. You have also read how manufacturing activities were organised at urban level.

During the medieval period urban centres and urban life were fairly well developed. In India, urban centres represented the fine blend of urban-rural mix for the obvious reason that most of the towns were extension of village. Urban population was quite heterogenous. On the one hand we find royalty and upper strata leading luxurious life; on the other, the urban poor barely attained the subsistence level. But, interestingly, if one compares the purchasing power of the urban unskilled and skilled workers they look certainly better off in terms of their capacity to buy food, stuff compared to their counterparts during the 19th century,

15.10 KEYWORDS

Domestic Production Production in which tools as well as raw materials were owned by the artisans

Putting-out system	Production in which the tools were owned by the artisans but the raw material or cash was supplied by the merchants

15.11 ANSWERS TO CHECK YOUR PROGRESS EXERCISES

Check Your Progress-1

1) See Sections 15.2, 15.3

2) (a) ✓ (b) × (c) ✓

Check Your Progress 2

l) See Section 15.4

2) See Section 15.4

Check Your Progress 3

1) See Section 15.5

2) See Section 15.6

3) See Section 15.8

4) (a) ✓ (b) ✓ (c) ×

15.12 SUGGESTED READINGS

Banga, Indu, (2005) *The City in Indian History* (New Delhi: Manohar).

Moosvi, Shireen, (1987) *Economy of the Mughal Empire c. 1600* (New Delhi: Oxford University Press).

Raychaudhuri, Tapan and Irfan Habib, (1982) *The Cambridge Economic History of India,* Vol. I (Delhi: Cambridge University Press).

Sharma, Yogesh and Pius Malekandathil, (2014) (ed.) *Cities in Medieval India* (New Delhi: Primus Books).

Siddiqui, Iqtidar Husain, (2019) *Delhi Sultanate: Urbanization and Social Change* (New Delhi: Viva Books).

15.13 INSTRUCTIONAL VIDEO RECOMMENDATIONS

Urban Economy and Technology during the Delhi Sultanate
https://www.youtube.com/watch?v=YDgmSS54u-c

Urban Economy in Mughal India
https://www.youtube.com/watch?v=FOZaH2L6b0I