CHAPTER -5

(II) AGRO-BASED CRAFTS AND TECHNIQUES; PROBLEMS, PREDICAMENT AND SOCIAL RELATION BETWEEN ARTISAN AND PEASANTRY

(III) EFFECTS OF URBANIZATION AND THE AGRARIAN CRAFT
PART-I

AGRO-BASED CRAFTS AND TECHNIQUES: PROBLEMS, PREDICAMENTS AND SOCIAL RELATION BETWEEN ARTISAN AND PEASANTRY

AGROBASED CRAFTS AND SOCIAL RELATIONS

In this way the traditional forms of combining agriculture and the handicrafts within the framework of the village community which ensured to some extent subsistence character of the economy its transformation certain limits into isolated, self-sufficient whole, took on the form of domestic.

Industry in the peasant house holds (the directly blending of agriculture and the handicrafts and the also the form of collective maintenance. In kind of the village community artisans, who supplied the peasants with the products of their labour according to their demands (a division of labour that continued for centuries). The handicraft labour found in these two forms in the village community, which during the period under review was a sideline of agriculture was a requisite of the feudal mode of production within the framework of which functioned the predominantly (often exclusively) natural economy of village community. In conclusion it should be stressed again that the traditional economic organization of labour where by the village community provided remuneration is kind to its artisans was by no means the only one. Source materials of the 16th 18th centuries and of earlier periods contain a wealth of information on the development of the productive forces of society as a whole notably in agriculture and the rural handicrafts, and on the growth of the among the village community peasantry, which destroyed the traditional community land holding and created new agrarian relation in the community. A special role was now
assigned to the right of private land holding and the commodity money relations penetrated over more deeply into the country side. All there process actively undermined and broke up the traditional forms of the economic organization of the village community handicrafts.

At first there was the natural striving of the artisans to sell their surplus outside their own village, to work for a bigger market. The new relation that emerged as a consequence had not however, as yet eroded the foundation of natural economy.

The craft had not yet separated from agricultural and were carried on primarily as domestic industries, as non agricultural or sideline occupations in the households of community peasants.

The village community crafts gave rise to another more complex traditional form of economic organization of handicraft production. As a result of the operation of law of the social division of labour in India, the craft that separated from agriculture blended with it again, this time however, on a new bases. In many districts of Hindustan the collective maintenance of the Artisans by the community continued to the end of 18th and the beginning of 19th century. In district of Gorakhpur (the territory of the North West provinces bordering in Bihar) the carpenter and blacksmith every where and in most parts the priests of the local deities and spirits a weigher possibly the goldsmith and simultaneously the money lender and money changer, a barber and tanner, receive certain allowances for their support. In some districts of Bihar only some elements of that system are mentioned as remaining in force during that period for example the payment in kind by the peasants for the services of the blacksmith, carpenter, potter and shoemaker. There are very few references to this effect with regard to Bengal at the 18th century; and the beginning of 19th centuries (one of such reference can be found in materials pertaining to the 19th century). But them it allows
of contradictory interpretation. The village blacksmith is said to receive from the customer paddy as a yearly payment. We are these for inclined to agree with the following conclusion drawn by E.N. Komarov relating to Bengal at turn of 18th century "The most important distinction of the Bengal village was the absence there, as a rule of system of collective utilization and collective maintenance of village community artisan. K.A. Antonva drew dramatically opposite conclusion specially because she erroneously ascribes data on the collective maintenance of artisan in the Gorakhpur, communities to the "Bengal village community" it is highly significant that there are data on this traditional form of the community handicraft disintegrating in Bengal and to some extent also in other parts of subcontinent (Malabar, Maharashtra, Mysore) especially at the end of the 18th and beginning of the 19th centuries, at that the village community artisans there were community producer. Small scale commodity handicraft production is a new form of economic organization of the crafts a qualitatively new stage in compression with the traditional village community crafts and there work of non community artisan to the order of customers. The production of industrial wares as commodities is the first step towards the separation of industry from agriculture and the exchange commodities between them. During the period under review there existed in India predominantly two types of small scale commodity handicraft production, first that represented by combination of handicraft production for the market with agriculture practiced in peasant household and second that carried on by professional artisan commodity producer town and country. We must first understand the processes that where characteristic of small scale commodity production in the peasant house hold, i.e. the development of domestic industry. Which under mined the self sufficiency of the village craft. During the
period under review it is observe that small scale commodity handicraft production in the household of the Indian peasant was often no longer combined with patriarchal (natural) but with commodity agriculture, i.e. the peasant sold his product on the market—a state affairs that was particularly wide spread in the production of industrial crop such as cotton, jute, oil seed crops etc. and also to the purchase of these products by merchants in rural areas observation and plenty of direct evidence showing that the peasant in addition to agriculture engaged in the production of commodities for sale on the market is found in source materials referring mainly to the end of the 18th century. An important commodity craft that was carried on by the peasants as early as the 16th-17th centuries was the production of saltpeter, which was used mainly for the manufacture of gunpowder. The largest saltpeter centers were Gujrat, Bengal, Bihar, a number of regions of the present states of Uttar Pradesh, Andhra. Mysore, the district around Agra and so on. Another small commodity craft that often became basic occupation of natural dyes for the bleaching and dyeing of fabrics. Among them was famous red dye clay in English documents (Sheri-vello is Telgu, Saya-ver in Tamil), the best kind of which was produced mainly near the town of Nizampatam. It gave the coromondal coast fabrics their unique scarlet colour. A letter written in 1630’s by an English merchant said no “other place affords the like colour.” The production of the indigo dye also wide spread in Bengal, Gujrat near Cambay in the Agra area and Ahmedabad and also Coromandel coast. The above example of the development of small scale commodity peasant handicrafts in spinning, weaving sugar and saltpeter manufacture etc. show how the self sufficient of domestic industry—one of the traditional forms of the village community crafts was gradually disintegrating. The development of the productive forces, the production of more goods for the market by the
peasant intensified the social division of labour, promoting the separation of the craft from farming.

A typical feature of the period under review especially the 17th-18th centuries, was the fact that the development of cotton manufacture drew a growing number of people of various castes into the spinning trade. For example in Dinajpur, the district of Bengal, in addition to women of the peasants do the spinning also during the leisure hours, similar to all the women of higher ranker..... even the women of here employ themselves in this useful industry. A similar practice could be observed in Bhagalpur (Bihar). In Mysore, as distinct from Bengal and Bihar, women of all castes went in for spinning, as their husbands from holding the plough. Generally best kinds of thread were produced by women of the higher castes, especially (in Bengal by impoverished Brahman widows. The coarse thread was produced by women ryots who could not spin fine thread because their fingers were rendered stiff by hard work. Spinning was becoming the profession of the widow of the higher castes, who there by made a livelihood for themselves and there dependents. The spinning of thread of the highest quality required specially skill which was passed on from generation to generation, took up practically all the time of the women spinners and was in fact, their main occupation. At the end of the 18th century the domestic chores in the families of these women were left hired servants. The applied for example the 17th-18th centuries to the spinners who lived in rural districts near Dacca and Dacca itself, where fine thread of a special sort of cotton, used to make the famed Dacca Muslins was produced.
Professional Craftsmanship and Increase in Volume of Production and Trade

The spread of professional spinning in India in the 16th-18th centuries, was linked with the growth of the weaving trade which led to the further development of the productive forces in spinning, typical of which was the greater division of labour. The operation connected with the processing of the cotton prior to spinning, and also a number of other steps for processing the thread, formerly all done by the women spinners, now became independent professions, cotton cleaners, combers (carder) twists winders etc. 6900 cotton spinners, 7500 weavers about 1500 carpenter and 500 blacksmith, most of whom were producing agriculture implements in villages. Thus the existence in the villages of South India in the 14th-16th centuries of professional weavers speak of the advance in many communities of the separation of the crafts from agriculture, particularly of the transformation of weaving from a farmers subsidiary domestic trade into a profession occupation of a weavers craftsmen. However, in the preceding period, too the intensification of the social division of labour and the separation of the crafts agriculture increasingly separated the towns from the country. Professional weavers concentrated increasingly in towns and districts around towns – major centers of commerce and industry. Thus in the population in such town as Cambay and Ahmedabad (Gujarat) Chaul (Konkan) Agra and Benaras (Hindustan) Satgaon and Sonargaon (Bengal) Masulipatam Canchipuram and Paticat Coromandal coast and others. The process of the separation of the craft from agriculture and the town from the country was intensified particularly throughout the 17th and 18th centuries, this being linked with the further destruction of village community land holding and also with the growing demand or cloth. The process led to the rapid growth of the weavers' settlement and
also to the increase in the number of weavers among the urban population.  

In the second half of the 18th century Bengal weavers had small plots of land apparently orchards kitchen gardens, However, in the late 18th and early 19th centuries Bengal weavers generally did not till the land, we are told that in Dinajpur among all these artists, except some of the weavers, who make coarse cloth for their own use, there are few or no person who cultivate the ground at one season, and work at their profession during the remainder of the year: In Shahabad (Bihar district) at the end of their 18th and the beginning of the 19th centuries only the men weavers families who did not engage in weaving worked the land while the ground rent to the land owner was paid by the whole family.  

R. Orme wrote that in the mid 18th century in Bengal the production of every sort of cloth was the specially of the definite caste or subdivision of the caste weavers, that the art of production may for centuries have been passed on from father to son a practice that was intended to ensure perfection. However, the rigid traditions, sanctified by religion, often hampered the introduction of changes, necessary to improve production. The reactionary essence of the caste system put a broke on the development of the productive forces in the crafts in general and weaving in particular. According to E. Ives, an English traveler who visited India in the mid 18th century, the artisans “will never by put out of their old way of working,” and should you be ever so desirous of instructing them, or showing them a more expeditions method, the will plead the custom of their fore fathers for which they have so great a veneration that they were never known even in a single (detail) to depart from it. However the development of productive forces in the crafts, the deepening of the social division of labour market demands and other factors undermined and destroyed these cast
limitations owing to the substantial at growth of the production of fabrics in the 16th-18th centuries members of different castes gave up their traditional occupation and took up weaving. Weaving was also taken by farmers, who moved to the weaver's settlements. The establishment of British colonial oppression in Bengal in the 1760's was responsible for the large scale destruction of the productive forces for a catastrophic decline of agriculture, the craft and commerce English authors who first noted the handicraft articles and agricultural products in Bengal, later in the mid 18th century on the eve of the establishment of the sway of the east India company there spoke of the grim aftermaths the actions of the colonial authorities had for the country. Thus, the British Governor Verelst wrote in 1768 that typical of Bengal was "a continued state of confusion" and that the cultivation was neglected, manufactures were destroyed that period abound in expression such as "the stagnation of trade and testify to the enormous dislocation of Bengal's economy by the action of the colonial authorities of the east India company.

**Expansion of Domestic Market**

The growing social division of labour, the separation of the crafts from agriculture and the town from the countryside, created an objective basis for the expansion of the domestic market, for intensification of India's foreign trade etc. In turn, the expansion of domestic and foreign trade had an enormous impact on the further development of handicraft production accelerated commodity production depend the social division of labour enhanced the flourishing of towns in feudal India and so on. In connection with the general decline of commerce and the crafts in the Mughal Empire at the end of stated the economy and the need to supply his armies. Aurangzeb issued an order that even in so developed a district as Gujarat the Kharaj (Capitation tax) should be collected "as
soon as harvest time comes" and that collection should be made in kind, of great interest is the data in source materials showing that peasant brought cloth on the market. This testifies to the further destruction of the self sufficiency of community crafts. In the late 18th and early 19th centuries urban weavers in Bihar produced coarse cloth intended for consumption in rural areas.

In the period under review there existed also trade link between the various parts of the subcontinent – a prerequisite for the emergence of an all Indian market. This developing territorial division of labour, which was linked with the social division of labour prompted the commodity exchange between the different parts of the country. The territorial division of labour embarrassed both agriculture and handicraft production source materials of the 16th-18th centuries note in particular, the great variety of the printed fabrics produced in India and the specialization separate districts on the production of special kinds. Sindh, Gujarat Golconda, the Coromandal coast, Orissa, Bengal, Bihar and other regions were famed for the production of specific fabrics. In consider action some of the basic trade routes on the Indian subcontinent during the 16-18th centuries by looking at Bengal traders in agriculture and handicraft products. Bengal had extremely lively and well established trade links with most regions of the country. In the early 16th century Bengal had extremely lively and well established trade links with most regions of the country. In the early 16th century Bengal traded with the coromandal and the Malabar coasts, Konkan and Gujrat. Rice from Bengal was shipped on small vessels (only such could be used deliver goods from the remote district of the ganges delta) to the Coromandal coast, where to quote Duarte Barbosa, numbers of ships from Malabar sail “every year most of them to take cargoes of rice” on the Malabar coast where there was a shortage of food stuffs, the rice was
sold the population. The most important thing however, was that the
economic and political power in India remained during that period
firmly in the hands of feudal class. The arbitrary rule of some Lords,
government officials etc. which existed in addition to the dictatorship of
the feudal class (the political rule, corresponding system of taxes
monopolies etc.) exerted an enormous influence on the development of
handicraft production and trade.

Feudo-Artisan Relations;

The feudal class strove to use the development of the craft and
trade as a means of strengthening their economic and political
domination. One should not think however that the policy of the feudal
state with respect to the handicrafts and trade was a consistent one. It was determined by all sorts of economic
and political factors and changed many times during the 16th – 18th
centuries and also differed from place to place, it should be
emphasized that while these monopolies existed the struggle between
the feudal and the market laws. The laws guiding commodity production
sometimes ended in favour of the latter. Thus, by order of the Shah in
the early 17th century in Bengal and Bihar middle men were to collect
tax 30 percent of the value from sellers of silk and 60 percent of the
value from private buyers of these goods. Actually the tax collected
amounted respectively to 0.5 and 1 percent and silk trade development
rapidly. The civil servants and land owners used the weakening of the
central power in a number of regions of Mughal Empire in the 17th-18th
centuries to impose additional taxes on merchants and artisans and
appropriated them for themselves.

These processes developed particularly intensely under
Aurangzeb at the end of the 17th and the beginning of the 18th centuries
for a Khafi Khan reported during that period the Jagirdars, Faujdars and
Zamindar in all the regions of the state lost all fear of punishment. The progressing social division of labour, spread of commodity-money relations, expansion of the handicraft goods, wrought essential changes in the economic structure of handicraft production. One of these was the cooperation of artisans, in all probability all these pre-requisites obtained to a more or less pronounced disgrace in several regions of India in the 17th and especially in the 18th centuries.

It should be examined the various forms of subjection of the craft by merchants capital during that period of India’s history led to the emergence of capitalist cooperation found expression not only in the expansion of domestic and foreign trade and in the marked growth of the number and activity of small producers but also in the marked growth of the number and activity of small producer but also in the greater role played by buyers up in small-scale production and particularly in handicraft industry.

This is the lowest stage of development of commodity production hardly distinguishable from handicraft production, India’s economic life where the expansion of the domestic and especially of foreign trade established big concentrated market for the output of local forming and the handicrafts. An objective economic contradiction emerged between the individual, isolated producers with their petty incidental marketing and the need of big market. The earliest form of the penetration of merchants capital into the small-scale industries and their resultants dependence consisted in the simple buying up by merchants of the direct producers output. This form became wide spread in India in the 16th-18th centuries. As stated before at the close of the 16 centuries Bengal
Merchant Capital

Dependence of the handicraft on merchants’ capital grew throughout the 18th century. In the late 18th century and early 19th centuries the condition of the artisans who regularly received advance payments from merchants was particularly grievance advance in Hindustan on the Bihar border many of them completely lost their economic independence they had no funds to carry on their work, to buy bread etc. In Patna, for example, the system of advance was pursued “by all the native dealers” since it kept the workmen in a state of dependence “little better, if so good, as slavery.” In Kashmir in the early 19th century, weavers of the famous Kashmiri shawls were entirely dependent on the dealers who advanced them money and bought, their entire output. This system was called work “for wages” describing it W. Moorcraft and G. Trebek two English travelers, wrote “it almost always happens that a system of advances had occurred by which the workman is so deeply in debited to his employer that he may in some sort be considered as his bond slaves.” How should the production relations that emerged in the Indian handicrafts. On the basis of money advances of the producers in the 17th-18th centuries are regarded from a politico economic view point?

Taking into account all the above we can say that the advancing of money to artisans, which was widely practiced in India’s handcraft industry in 17th – 18th centuries, contained elements of a transition to apitalist relation. Since in advancing money the merchant was beginning to intervene in the production process, dictating to the artisan

Merchants sailed up and down the Hoogly River and bought up on local markets all sorts of agriculture and handicraft goods.
what he was to manufacture how much of it within how long a period etc. source materials enable us to assert that at that there existed in India also forms of subordination of small handicraft production to merchants capital under which the middleman stopped to pay the producers in money or in kind (essential commodities including raw materials) and instead directly distributed raw materials to the for processing for a definite payment. This made the artisan actually a wage worker working at home for the capitalist and the merchants capital of the middle man was transformed into industrial capital. This, in effect created a capitalist domestic industry.\(^45\)

These production features be observed not only on the Coromandal coast. The chronicles of Mirza Abu Talib Khan reffering to 18\(^{th}\) century Lucknow, which was famed for the production of printed cloth mention a “master painter” who was a respectable man and the employer\(^46\) four or five hundred apprentices.” But we have no information as to whether they worked in the same premises or were working at their homes (which seems more likely) similarly forms of production emerged in Bihar at the end of 18\(^{th}\) and the beginning of 19\(^{th}\) centuries. Where “the tradesmen of Patna make Chintz for exploration and use now cloth. Some of them little, capital finds the materials and servants and print the cloth at so much a piece for the merchants.”\(^47\)

A large part of the foot wear produced in Bihar was sent to Bengal markets, while many artisans worked for daily wages for several merchants, who supplied them with many Artisans worked for daily wages for several merchants who supplied them with all raw materials.\(^48\)

These relations took place within India’s feudal economy. They emerged in some centers and districts, notably in handicrafts most closely linked with massive sales with large scale overseas trade. These processes embraced first of all rural weaving and spinning centers in the
vicinity of large scale overseas trade. These process embraced first of all rural weaving and spinning centers in the vicinity of large trading towns, such as Masulipatam, Balasore Hoogly, Dacca, Malda, Patna, Surat, Ahmadabad and others, because the urban crafts depended to for greater extent on the feudal lords and the feudal organization of labour.

In addition to that in feudal Indians handicraft production in the 16th – 18th centuries there were also forms of centralized cooperation, differing as regards their political economic essence and social importance.

The simple cooperation of handicraft labour which was developing extensively in feudal society, to the capitalist features are clearly discernable in the activity of the merchants who advanced money for production purposes.

An organization of labour in many respects resembling that in the iron-making capitalist manufactures of Mysore can be encountered at the end of 18th and beginning of 19th centuries also in Bihar (district Shahabad) were iron making was carried on. The proprietors of the furnaces received advances from urban merchants hired people to deliver are and fuel, and carryout the smelting. As many as 50 people serviced a single furnace. On the other hand, along side the traditional economic form, qualitatively new forms seem to have emerged in the economic structure of the handicrafts, agriculture and trade. Various primary sources and the voluminous literature on India describe in detail the feudal forms of the economic structure of the handicrafts in practically all the principal areas of the subcontinent in the 17th and 18th centuries. Various kinds of handicrafts were not separated from agriculture. At that time certain handicrafts, such as spinning, weaving, oil pressing, sugar manufacturing, etc.
Moreover, hereditary professional artisans (blacksmiths, carpenters, potters, tanners etc.) were maintained collectively by the village community, which allocated to them a certain share, rigidly fixed by traditional of the peasants' crop in kind and sometimes also a small plot of land: in return the artisan supplied the numbers of their community with their products.

Characteristic these two forms of handicrafts production seat have been the growing ties of the peasants engaging in side line domestic industry and the village community artisan with the market. Thus with the growth of trade in cloth the peasant bought some cotton for the household handicrafts on the market and sold their surplus yarn or cloth there peasants who engaged in silkworm breeding. Silk winding, saltpeter production natural dyestuffs (indigo, etc.) sugar manufacturing, oil pressing, the mining and selling of iron and other trades in the 17th and especially in the late 18th and early 19th centuries, accounted for a considerable number of commodity producers.

Among other forms of the economic structure of handicraft production, which were particularly typical of feudal economy, mention should be made of the manufacture of goods by professional urban and village artisans for sale directly market though work by artisans not for the market but on clients' orders was also widespread at that time. The handicrafts caste organization sanctified by religions tradition and concerned with the strict observance of established rules (Pertaining to inheritance marriage, production process etc.) played a considerable part not only as a medium through which the artisans were subjected to feudal exploitation (through taxation etc.) but in a number of instances probably as a kind of union intended to protect them against some extreme forms of exploitation. The expansion of handicrafts production was attended not only by a numerical growth of the artisans engaged in
it but also by a further development of productive forces a deeper division of labour, i.e. the separation of some intermediate operation into independent trades (in spinning, weaving, dyeing, iron making, sugar manufacturing) as well as by the emergence of more efficient tools (for weaving, silk winding etc.).

An extremely wide spread form of economic organization in handicrafts production was the artisans individual economy i.e. the family production unit with its own internal division of labour, some workshop masters employed several apprentices – a practice dating back to medieval times. Various sources materials mention cooperation, i.e. artisans associating in cartels (in iron making, mining, sugar manufacturing etc. The feudal class exercised its exploitation of the artisans not only through a ramified and diversified system of taxation (both by the governments and by the feudal lords) but also by various forms of political and economic control, feudal restriction monopolies etc. There being no regular statistics for the 17th and 18th centuries we are unable to give a quantitative characteristic of the distribution of the above described traditional feudal forms of the economic structure of handicraft production in different parts of the subcontinent. There is however rich evidence suggesting that these forms were prevalent in India's handicrafts in the period under review. At the same time qualitatively new forms probably began to emerge alongside to old ones.

Growth of Mercantile Towns

The 16-18th centuries witnessed on expansion of home (including rural) and especially foreign trade, many new town and settlements sprang up and grew becoming centre of handicraft production and trade establishing extensive trading ties with large rural areas – trading ties spreading from the periphery to the city and to a lesser degree from the
city to the rural periphery. Local markets formed, encompassing to one
degree or another main national unit of the country.

Although the investment of European trading companies and their
activities did play a considerably part in the expansion of the market
handicraft good, it was overwhelming dominated in the 17th century and
the first half of the 18th centuries by Indians and other Asian merchants
both in regard to the volume of business activities and investments. In
some handicrafts the more or less free wage labour must have gradually
ousted compulsory feudal labour it seems likely that in the 18th century
these processes it seems likely that in the 18th century these processes a
rose in India's feudal economy sporadically and rarely, only in some
handicrafts and only in some areas while in the late 18th and early 19th
centuries they probably assumed a much wider scale and spread to many
economically developed areas though their scale and features differed
from place to place.
PART-II

EFFECTS OF URBANIZATION AND THE AGRARIAN CRAFT

The Indian economy of the thirteenth-eighteenth centuries, much like that of any medieval society, was based upon agriculture. In various localities of India different sort of rice, wheat, millet, barley, pulses and oil-producing crops were grown; vegetables and fruit were in abundance. Agriculture technology boasted of quite a high level of development, as attested by many foreign observer. Medieval agriculturist were familiar with many advanced methods like crop rotation; tools and techniques were diversified and well adjusted to the local soil and climate condition.

There existed a diversity of irrigation facilities (wells, canals, tanks, reservoirs, etc.). All these factors along with the great diligence of the Indian peasants contributed to the high productivity of agriculture and to the significant amount of surplus.

Nearly all medieval rulers declared patronage of traders and craftsmen as main principles of their administration, but in many cases these declaration went side by side with all kinds of oppression, so vividly described not only by much-quoted European observer like Bernier, fryer and others, but by a humbler of Indian sources including work of medieval literature. For example the *Ardhakathanaka* abounds in graphic description of merchants oppressed, imprisoned and tortured by local potentates and state official in order to extort money.

However, crafts and trade, concentrated within urban boundaries, were a determinant, but not absolutely self-sufficient factor of a city’s existence. Any medieval town was a complex multi-faceted system, so
rightfully compared by the celebrated eighteenth century Indian thinker Shah Waliullah Dehlavi with a composite body, a living organism.\textsuperscript{51} It is an established fact, that in Ancient and early medieval Indian there has been a considerable development of crafts and trade as well as urban life.\textsuperscript{52}

No doubt, ancient and early medieval cities were also centers of crafts and trade. But on different stages of history this function and peculiar socio-economic meanings. In others words, of importance here is what kind of agricultural production and what sort of commerce it was urban centers of medieval India, big as well as small towns, hosted all kinds of manufactures, like textiles industry, carpet making, jewellery production of dyes, oils, sugar, scents, soaps, paper, ink, glass, weaponry, tools, household utensils, all kinds of metal, wood, stone and leather works, minting, construction, shipbuilding, etc. all of them were urban occupations, though not in all cases predominantly so. There also existed a number of crafts which are to be studied more by fine art specialists, though the border between arts crafts was indeed flexible.

Though almost every city could boast of a number of crafts, a kind of specialization developed which made certain cities and towns famous for this or that production. For example, Ahmadabad, Broach, Baroda, Lahore, Multan, Yeola, Thana, Dacca, Malda, Kasimbazar, Burhanpur, Narasapur, Masulipatam, Kanchipuram, etc. were famous for their textiles: Bayana, Sarkhej, Cambay, Srinagar for dyes; Agra, Delhi, Sialkot, Lahore for weapons; Baroda, Patna, Bihar Sharif, Sialkot, Zafarabad for paper, etc. Coastal cities like Surat, Chittagong, Narasapur, Cambay were known for ship building in this list, which is not full, of course.\textsuperscript{53} To begin with, urban craftsmen, according to some scholars, produced mostly high quality luxury goods and catered for the needs of the court, feudal elite and their retinue.\textsuperscript{54}
The luxury goods were the bulk of the marketed commodities, while the majority of urban population was so poor and even well-to-do people were so economical and restricted in their consumption, that the market for urban manufactures within a city itself was extremely narrow. But if we look at other sources, for example, those listing the articles of urban taxation, it will become clear that the majority of craftsmen were engaged in the manufacturing of mass consumption goods like cotton yarn and ordinary textiles, utensils of metal and clay, dyes, oils, soap, ropes, bricks, lime and other items "which are a basic necessity of human life and are required by high and low."

In many cases goods of mass demand required more advanced tools and technologies. This kind of manufactures was more profitable for the craftsman and thus more widely spread in compression with the production of luxury goods.

The fact of concentration of craftsmen and traders was of crucial importance here of course, it was not the only decisive one; other factors like administrative, cultural, defensive also played their role. It will be really difficult to make a true picture of the way this concentration process was developing through the middle ages. We may only suppose that the industrial layer of urban population was growing historically due not only to natural reasons, but other factors like migration of rural people to the town and their taking to some crafts.

During the period under review the situation was slowly changing. Luxury goods remained to be an important sphere of urban crafts, but there was also a significant growth in the production of mass demand items to be sold within a city itself, in the countryside and other local markets. These changes were based on the innovations in technology and organization of urban crafts. The development of urban industries was interrelated with the growth and strengthening of the
cities and towns as centers of commerce and crafts.\textsuperscript{60} The reason was, to our mind, not in the brave and freedom-loving character of the Indian princes and feudal lords, who rebelled against imperial domination, but in the real and objective condition of a state unified not by the natural socio-economic, political and cultural process, as it happened in many European states, where force was used to stimulate the powerful tendencies of integration, but by conquest only.

Endless wars, rebellions and primitive expeditions of the royal armies such was the atmosphere, in which the Indian cities had to exist, short periods of relative prosperity were soon replaced by long bloodshed, destruction of the cities and towns, mass impoverishment of craftsmen and traders, as well as peasants.\textsuperscript{61} The never-ending military activities required astronomical sums of money of which the Indian rulers, given their legendary wealth and luxury were always in need. Hence the incidents of forcible confiscation, forced labour and oppression to traders and craftsmen, royal monopolies imposed upon a number of commodities, etc.\textsuperscript{62} It used to be an established practice of the local potentates to ignore all royal decrees prohibiting “illegal” taxes forced labour, oppression of traders and artisans. In the words of Ali Muhammad Khan “the tyranny of the unreasonable superiors trampled under the feet the heads of the populace lying in the dust.

As it was mentioned above, the progress of the latter throughout the whole of the middle ages is doubted by no one, while for pre-colonial India “stagnation conservatism, primitive technology” are the most frequently applied definition. Strangely enough, for some of them technological primitivism of medieval crafts is an aspect of the all-embracing stagnation of the whole pre-modern Indian civilization. Others admire the artistic dexterity and skill of the Indian craftsmen and stress that their genius needed no sophisticated tool to produce real
masterpieces. In the latter case the achievements of the achievement of ancient Indian civilization are especially noted, some innovation of the later periods are attributed to, for instance, Gupta times, so that the ancient crafts are depicted in a way similar to those of the 16th or 17th century. Our task, however, is to explore the technological development of urban industries in India from the point of view of its historical development. Much like any type of pre-modern industry, medieval crafts in India were based upon manual labour.63

Both medieval Indian and western manual crafts were distinguished by very slow development of tool and techniques, relatively low label of labour division (in any case within a big family only), conservatism, traditionalism reluctance to open the secrets of the craft to a stranger, sacral attitude to the tools and experiences inherited from the force fathers. Unlike the machine production, aimed at the manufacturing of a standard thing, medieval craftsman did his best to make every item on individual basis, to fully express his taste and talent in it. As a rule, the craftsman was no interested in making in labour more productive (this was connected with the limited character of market and demand); his purpose was first and foremost to achieve perfection in his craft, win over his colleagues and competitors as concerned quality and artistic beauty of his work, which itself was looked upon as a kind of religious duty.64

The very process of production was strictly regulated by caste and guild rules. The letter did whatever possible to prevent the adoption of new techniques and competition between craftsmen. Thus the whole history of medieval industries was fully of struggle against technological innovations. Nevertheless productive forces of the Middle Ages were distinguished by a slow evolution, marked both the technical improvement and the deepening of labour division.65
The craftsmen engaged in construction work constituted a significant group of urban population. Our sources quite frequently refer to diggers, clay workers, brick burners and brick layers, lime mortar makers, lacquerers, etc. of high social repute were the master architect is referred to: its head, Jaita with his son Puja and Napa constructed many magnificent building in the times of Maharana Kumbha, these edifices adore the city even now. Mughal chronicles too sometimes mention the builders' names of especial repute was, for example, the family of Ustad Ahmad Lahori, Shah Jahan's laureate architect, whose son and grandson also were distinguished architects and mathematicians. It is a well-known fact that nothing like scientists, conscious attempt to create a new technology, and introduce it into the sphere of production was possible in medieval India, where there existed two nearly independents networks of the transmission of knowledge: craftsman inherited technology from their fathers and master artisans, making these or that technical discoveries empirically, by trial and error system. Throughout the whole of medieval period and a significant part of modernity separated from each other by the wall of estate or caste pre-indices, sacral attitude of the craftsmen to their tools and techniques inherited from the for fathers, the educated elite's attitude to the toiling masses to which artisan belonged. In India exact and practical sciences were traditionally ranked among the "art" (Kala), low as opposed to the "pure knowledge" (Vidya) like theology, philosophy, grammar or poetics.

While in early medieval times such treatises were in most cases abstracts works on alchemy, architecture or mechanics, while practical aspects of technology were treated quite rarely and vaguely, later period brought about significant changes. A number of treatises appeared, the earliest known perhaps being Thakkura pheru's, which were not just
scientific or philosophical "discourses", but practical guides in different manufacturing technologies (for examples Majmut-i-sanai the encyclopedia of craft, 1624. The Tafzil-i-sikka on minting 1773 or Risala Rang wa Bui on weaving and dyin, Tipu Sultan’s times, etc.) It is worth thinking that these treatises were written for the craftsmen could hardly be readers, especially in Sanskrit or Persian, for as it was already mentioned knowledge was transmitted orally among them. It can be suggested that these works were composed in order to make other scholars know about this or that technology developed by craftsmen and use it as experimental material. In the sixteenth-eighteenth centuries some educated Indians got an insight into European Sciences and technology. The reaction, as at tested by many sources, was distinguished by curiosity and sincere interest. We many remember here Bernier, who translated the works by Descartes, Harvey and Gassendi for a Mughal Noble.\textsuperscript{70}

The widespread estimation of urban crafts technology in medieval India as backward and stagnant, especially as compared to European one, an hardly be accepted. Much like its pre-industrial western counterpart, it developed on the basis of manual labour. It may be interesting to note that in the European travel records of the fifteenth-sixteenth centuries description of Indian craft techniques or tools are conspicuous by their absence, with the exception of those crafts which were new and exotic for the west. First regular description of Indian craft techniques are to be found in the works by the late seventeenth partly by only eighteenth and nineteenth centuries observers like Orme, Buchanan, Forbes, Heyne Colebrooke and other. It is from them that we know about the condition of Indian Technology.\textsuperscript{71}
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