CHAPTER III: AGRICULTURAL PRODUCTION AND SURPLUS EXTRACTION

Hadauti, the south eastern part of Rajasthan, which is an extension of the Ma/wa plateau, is endowed with three principal rivers, Chambal, Kali Sindh and Parvati. It receives a rainfall from 650 mm in the Northwest to about 1000 mm in the Southeast. It is an area endowed with rich natural resources of fertile land and water. For these reasons, Hadauti was considered to be out of the perpetually famine affected zone of Rajasthan. A popular saying refers to only Western Rajasthan as the "permanent abode of famine". The British administrative records describe the famine of 1889-90 to be the first that ever visited the Kota State. Tod who spent plenty of time in this area had observed that Kota had become the "granary of Rajasthan". Even a 17th century account highlighted the prosperity of Kota as "gras vedh ri dharti" (high revenue yielding land). Several detailed studies of medieval Rajasthan show that the Mughal land revenue system prevailed in Rajasthan at any rate from the middle of the 17th century. Availability of a large number of jamabandi, khasra and adhsatta documents for Kota principality confirm this conclusion. One of the earliest jamabandi available is of the year c.1672 for mauza Barod. While most of the adhsattas available date back to the early 18th century.

The main agricultural land of Hadauti is the black soils of alluvial origin. These soils have good moisture retaining capacity, absence of high mineral matter and good fertility status. The black soils were locally known as "mal".

1 Directorate of Research and its Achievements, Rajasthan Agricultural University, Bikaner, Dor/1995/1, p. 84
2 Pag Pungal dhar Merta Seesaj Bikaner, Ato jato Jodhpur thavo Jaisalmer.
3 I G O I, 1908, Rajputana, reprint 1989, p. 376
4 Tod, A A R II, p. 432
5 Nainsi, Khvat I, p. 104
6 S.P Gupta, "Agrarian Stratification in Eastern Rajasthan" in The Peasantry through the Ages in Western India, ed. G.N. Sharma and V.S Bhatnagar, Jaipur, 1993
7 Jamabandi kasba Barod, s. 1729, K.B. 1/1
and the adjectives used to describe mal such as pelo mal, nandi ka mal, or chapariya mal, bharet mal or darelia mal show the knowledge which the cultivators had developed about the characteristics and variations of mal by 18th century. The mal could be ploughed only when slightly moist as it turned too hard when completely dry and too elastic when wet. Thus mal is in optimal working condition only for a very short time. Thus the ploughing span for mal was short and could not be adjusted. The land which was to be sown in rabi had to be ploughed at least twice after the rainy season to prevent the upper crust from cracking and leading to evaporation of moisture. The local saying in this respect was "chhod bawni, de sawnf" (to give up sowing in kharif and to undertake ploughing for rabi). Thus the ploughing operation necessary for rabi at the commencement of the rainy season could not wait till the sowing for kharif was over. Besides regular ploughing was necessary to maintain it as cultivable and to prevent it from developing safar (bushes) and becoming too stiff. Such land, which was ploughed regularly, was hakat. It turned into parat, if left unploughed for too long it became too hard and almost as difficult as beed (virgin land). Therefore, cultivating black soils was a far more labour intensive process. The inferior varieties of land were known as bardi, kankarya and ghati. Bardi was a poor gravely and sandy soil of reddish colour, which was not more than a one feet deep layer of soil on a rocky surface. When mixed with kankar (stones) on the hill slopes it was known as bardi-kankarya. There are some references to cultivation on the soils deposited in ghati (valley) and soils known as beejmaar (killer of seeds).

The main advantage of the black soils was that rabi could be grown even without irrigation, provided the land had been ploughed at regular intervals.

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8 These adjectives for mal have been used in various kasht-ka-pattas issued from time to time, for instance patta mauza Barod dated Asadh sudi 14, s. 1729, K.B. 1/1 and Ummed ganj ki ramreet dated Jeth vadi 4, s. 1846 Khate, K.B. 3/1
9 I have received this information from thakur Giriraj Singh, aged 80 years belonging to village Thunpur, tehsil Sangod, Dist, Kota
10 / GOI, op. cit
11 Patta Jeth sudi 11, s. 1775, K.B. 1/85 refers to beejmar dharti in mauza Raroti, and bardi etc. are mentioned in tazkara of mauza Beeldi pargana Cheepa Barod, s. 1771, K.B. 9 / 1; Dhuandel and Gharpati records of s. 1771, K.B. 1/276, Kota.
after the onset of rains. In this system a land on which kharif crop had been
grown could be used for rabi only in the next year. Therefore the production
cycle was as given below:

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The peasant who could raise a kharif crop as well as plough some fields for
rabi could have two crops without any need of irrigation. Inspite of this
advantage, according to Nainsi even in the late 17th century, half of the
pachwara villages of pargana Mau were bhakar-jhad (hills and jungles)12.
Expansion of agriculture in such parganas could take place only after clearing
of forests and bushes and leveling operations. It appears that much of it could
be brought under cultivation by the end of 18th century, demonstrated by the
fact that cultivation had spread to inferior varieties of soil by the end of the 18th
century. For instance in mauza Beeldi of pargana Cheepa Barod, mal was
only half of the total cultivated area, the rest being inferior varieties of soil
such as bardi13.

Although a winter crop could be grown by using sewaj (moisture present in
the soil) but irrigation method known as seko was also in use for crops like
sugarcane, jute and vegetables14. In eastern Rajasthan wells were the

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12 Khyat I, op. cit
13 Tazkara, mauza Beeldi, Cheepa Barod s. 1856, K.B. 9
14 The practice of sewaj and seko have been referred to in the kasht-ka-pattas, for instance in
the patta issued to mauza Vasai, Jeth vadi 2, s. 1783, K.B. 1/118
mainstay of irrigation\textsuperscript{15} but in Hadauti several areas had no wells at all\textsuperscript{16}. The areas where wells existed also differed from each other. In some areas rocky surface beneath the layers of soil was encountered after ten feet while in other areas like Bawan and Bayalisa rocky surface showed up only after 50 to 100 feet\textsuperscript{17}. The first layer of rocks to be encountered was ‘marda’ which were used as the ‘pag’ (base) of the well. The second layer of rocks was the red ‘jhinkra’ and the third layer was the hard black rock. A well could be sunk only up to the first two layers\textsuperscript{18}. A peasants who dug up a well for irrigation was given concessional revenue rate as well as exclusive right to use it’s water for irrigation but only as long as he could work it. If he failed to work it, he lost the right on that well\textsuperscript{19}. In the village situated on the bank of a river, the main source of water was dehri. It was a square water tank connected through a channel to the near by river. Water was lifted from this tank upto the level of the fields\textsuperscript{20}.

It was used in the areas where rivers were flowing in deep ravines and water could not be brought to the fields directly. In the villages situated near the hills, storing rainwater by constructing a ‘pat’ was a common practice. Such pats were built in pargana Sahbad and Nanta in 18\textsuperscript{th} century \textsuperscript{21}. There were several such small constructions all over the region, besides the bigger and famous ones like Jait Sagar or Jassu ka talab. Ram Sagar in mauza Rawtha near Kota could sustain nine charas at a time. If a patel or saha renovated or


\textsuperscript{16} The area lying between river Kali Sind Parwan had no wells even up till 20\textsuperscript{th} century, interview with Professor N.L Varma aged 75 years and his wife Kanwari Devi aged 70 years belonging to Bheempura, tehsil Ladpura and Umarda tehsil Sangod. Nainsi had also recorded for Hadauti that “seko ko nahi, sewaj ghana”, Khyat op. cit. P. 102

\textsuperscript{17} the area around Suwasa and Kesho Rai Patan was known as Bawan while around Gudha, Silor, Nyan was known as Bayalisa, Interview with Ghansham Ladla, Aged 70, of Bundi.

\textsuperscript{18} Interview with Gulab Chand Panchal Aged 40, Panchayat Samiti, Keso Rai Patan, who belongs to village Gudha.

\textsuperscript{19} Durjan Sal to patel Nathu of mauzaBhadaheda, Posh sudi 14, s. 1796 K.B. 1/135

\textsuperscript{20} Dalel Khan to Pancholi Kaluram, Jeth sudi 12, s. 1852, K.B. 21 refers to dehri, it was explained by Professor N.L. Varma, op. cit.

\textsuperscript{21} Nanto ka karkhanas, s. 1836, K.B. 1/62; Dovarki pargana Shahbad qui, s. 1838, K.B. 1/65
constructed a water tank he was rewarded by the state by conferring a few beeghas of land to develop a garden\textsuperscript{22}.

The three main devices for lifting water were dehenkli, charas and rahat or arhat. Dhenkli known as the poor man’s lift consisted of a pole supported by a prop with a jar or bucket at one end and a heavy weight at the other for lifting water from shallow wells or ponds. This device could be used mainly for watering the vegetable. This is testified by a riddle couplet in Hadauti, which asked about brinjal plants watered with a dehenkli\textsuperscript{23}. In areas where a permanent well could not be sunk due to sandy soil like in river basin, temporary well not more than ten feet deep were worked with dhenkli\textsuperscript{24}. Hardly half a beegha could be irrigated per day by this device. Charas was used for extensive irrigation in the fields mainly of sugarcane and other salu crops by constructing dhanas. In mauza Rawtha, rainwater was stored in Ram Sagar, which had nine dhanas. A dhana had a (pedestal) of about 6 feet by 8feet, a charas and dhora (main water channel)\textsuperscript{25}. A number of riddles about charas not only describe its main parts but also reflect the deep impression it had created on the common mind as a significant improvement in lifting water as compared to a dhenkli, because of the labour saved by a charas as compared to dhenkli. It required lav (thick rope), charas (leather bucket), Girgidi (a wooden wheel) and bhun (thin rope). The water level in the different parts of Hadauti was different. One of the riddles mentioned ‘ath hath ki nej’ while another mentioned ‘pachis hath ki dor’\textsuperscript{26}. The length of nej (rope) varied due to difference in the water level. In this device bullocks moving down on an inclined plane pulled water.

A charas could irrigate about a bheega per day in low water areas. The joy which charas provided to a peasant household got reflected as ‘khanchen che

\textsuperscript{22} Umed Singh to patel patwari mauza Barkhedi, Asadh vadi 4, s. 1844, K.B. 3/3
\textsuperscript{23} N.L. Pathak ed. \textit{Hadauti qui Lok Prahelikayen}, Kota 1969, p. 111
\textsuperscript{24} G O I, Jhalawar. op. cit. Pp. 75-76
\textsuperscript{25} These dhanas still exist at Ram Sagar, Rawtha, about 40 K.M.
\textsuperscript{26} Pathak op. cit, pp. 123-124
bal-bacha nache che mor' (when children pull it peacocks dance). It gave a feeling of triumph against nature 'nardi gungawe Heera dor dor ke nhave' (the pulley roars like a tigeress while the bucket runs down to bathe) the mighty device had provided. Rahat (Persian wheels) was also in use at some places where the water level was about thirty feet or less. Supplying kolu (pots) for rahat was included amongst the customary obligations of the kumhar. In one of the riddles the buckets on wheel were compared to mala (string) of pearls and a garland of flowers, almost eulogising the Persian wheel as an irrigation device. Dehenkli was used to lift water from ponds, charas from dehri but a rahat could work the wells, tanks channels and rivulets, and irrigate about eight to ten acres of land at the rate of one and a half beegha per day. However, the area irrigated by this device always remained limited and agriculture remained largely dependent on rainfall. Inspite of abundance of other water resources, the peasants were unable to harness them due to material constrain. The popular saying was " arhat ki baramas Inder ki do ghadi"(rain for a while is much more than the water drawn by a Persian wheel through out the year).

Since, agriculture was largely dependent on rainfall it compelled the folks to develop knowledge about rain forecast on the basis of observing nature around them as well as through their routine activities. A whole lot of proverbs express this tremendous accumulation of experience based knowledge abut rain. It is eptiomised in the popular saying 'kheli badal mein' (agriculture is in clouds).

Villages in Hadauti were concentrated human settlements with no 'dhanis' (hamlets) primarily because of the thick forest around and the problem of slush during the rainy season, which rendered it difficult to walk a long

27 Pathak op. cit, p. 124
28 Ibid, p. 126
29 GO I, op. cit, pp. 75-76
30 Kanodia Bhagirath, Govind Agrawal, ed. Rajasthan Kaakhat Kosh, Jaipur, 1979, p. 71
31 K.L Sahal Rajasthan Kaakhaten, p. 57
distance. The villages in the north west of the region were agricultural production in Hadauti were dominated by peasant families of labour organisation. In some of the documents terms like halpati and haljota have been used for the peasants. The difference between the two can only be conjectured on the basis of the context of the use, as it has no where been clearly explained. In mauza Digonya there were 16 halpatis but no halis whereas in mauza Chandelpur there were 55 haljotas as well as 13 halis. The halis were agricultural labourers but worked for a fixed share of produce, which was about 1/7, or 1/8 of the gross produce. They rendered only labour and the person who hired them provided all other inputs. Therefore, it appears that those who cultivated through family labour were the halpati while those who hired the halis to supplement the family labour or in some cases as a substitute for it were the haljotas. However, most of the time peasants were simply called kisan or karsa irrespective of the form of labour organisation adopted by them. Since, the number of halis in a village was always limited and also much smaller than the number of peasants, it can be assumed that most of the peasants depended upon their own and family labour. Thus it was the basic unit of production. The peasant plough units in a village were denoted as karsa halas in contrast to the himayati halas and accounted for roughly 66 percent to 88 percent of the cultivated area in a villages.

Agricultural expansion in the region required relatively high labour and capital inputs due to the soil peculiarity of the region. Migration of population from other parts of Rajasthan towards Hadauti in the later half of 18 the century had enhanced the labour resources leading to extension of cultivation even on the inferior varieties. To some extent the degree of skill, which the local cultivators had developed, as well as the new sections taking up cultivation, also played a role in expansion. The capital input requirement for cultivating black soils was higher because it not only needed a heavy plough but also a

32 See, the chapter "village Community: structure and Stratification" for a discussion on these terms.
33 Jama Mahsuli from Dhuandehl and Gharpati, ,op. cit.
34 Adhsatta mauza Babli, Halon ki bahi, s. 1783-84 K.B. 1/121-133
'kuli' which was a leveling and pulverising device. Kuli had a heavy iron plate (phas) and had to be used several times to prepare the field\textsuperscript{35}. A strong pair of oxen was necessary to pull the heavy plough and kuli. In this connection Tod’s observation that Zalim Singh had introduced “the plough of double yoke from the Concan” is a little misleading\textsuperscript{36}. It is true that at times two pairs of oxen were used to break the beed and parat land but it was not a regular practice, as controlling and balancing a double yoke plough was extremely difficult. The normal service span of even a well looked after pair of oxen could hardly be more than ten years. The sarkari-halas disposed of the oxen after five-year service span, which were sold for rupees three to seven per oxen\textsuperscript{37}. Thus roughly a peasant required rupees ten every 10\textsuperscript{th} year to purchase a new pair of oxen. To take advantage of the growing demand for oxen in the region a large network of stealing oxen and selling these to the villages on the riverbanks had emerged in early 18\textsuperscript{th} century. Some of the jagirdars were also involved in stealing oxen\textsuperscript{38}. It appears to be not so much related to the cost as to the scarcity of oxen. An increasing number of annual melas in the later half of 18\textsuperscript{th} century perhaps helped in reducing this scarcity of good oxen in the region. Cattle traders from distant places were called to these melas by giving concessions in local levies on trade traffic\textsuperscript{39}. Even within the existing resource constraint a peasant household was expected to cultivate at least five beeghas of land in addition to the land already under its plough\textsuperscript{40}.

Distribution of land and other resources amongst the peasants shown that there were sharp inequalities. For instance, in mauza Dhansuri in c. 1703 out of the 20 peasant plough units, two peasants held three units each, three

\textsuperscript{35} The phrase 'hal-kuli chalavjo' for cultivation shows the important of kuli as on equally important agricultural operation device as a plough. Khate kachahri taluka ka, Umed Singh to Saha Kala Rupa etc, mauza Charav, tafa Arankhera, Magh sudi 2, s. 1845, K.B. 3/3
\textsuperscript{36} Tod, A A R op. cit, p. 437
\textsuperscript{37} Jama Sarkari halas mauza Rajpura, s. 1828-40,
\textsuperscript{38} One such network was run by Kheeva Meena, see, report sent by Binayag Ram and Kotwal Akhram Singh to khawas Sri Ramji and Har Govind, Phagun vadi 9, s. 1785, K.B. 1/185
\textsuperscript{39} For details see the chapter, State Merchants and Markets.
peasants held two units each while eight peasants could cultivate just one plough unit each. Similarly, mauza Babli had 33 plough units in c. 1726 of which 28 were the karsa halas with 14 peasants holding less than one plough unit and two peasants holding 3.7 and 4 plough units. The difference in the number of plough units cultivated by the peasant households, belonging to the same cast, enjoying a similar claim on the land under their plough, underlined the inequalities, which had emerged amongst the peasant households. While some were not in a position to cultivate even one plough unit (60 beeghas) necessary for subsistence other were cultivating as many as four plough units. The reasons for increasing stratification within the peasantry have been examined in case of eastern Rajasthan. In Hadauti also there were differential revenue rates for the himayatis and for the different categories of the karsa. The institutional means of access to revenue resources in the form of dohli, patel and full or partial exemption from contribution to the malba (village fund) acted as forces promoting differentiation. Moreover, spread of agriculture to newly cleared forest areas through out the 17th and 18th century also offered entrepreneurial opportunity to many to enhance their existing resource base. An important implication of increasing stratification for peasant production was that a section in the rural society had acquired some surplus resources to invest in improvement and expansion of agriculture, while another section had become dependent upon external support for carrying on cultivation.

The extent to which some of the patels could mobilise resources for agricultural expansion could be quite substantial. In mauza Babli three of the patels were together able to bring 270 beeghas of beed land under their plough, besides the 222 beeghas already being cultivated by them. The surplus resources in the hands of patels and sahas were also invested in acquiring more samhi land within the village. In mauza Mundana land of many peasants had been under the ploughs of these section in lieu of paltry annual

40 Asadh ki jameet in Khalsa villages, K.B. 1/121-133
41 Likhant, patel patwari, mauza Dhansuri, Chait vadi 13, s. 1760, K.B. 1/37
42 Mauza Babli ka adhsatta, Halon ki bahi, op. cit.
43 Ibid
sums\textsuperscript{44}. They also tried to secure written orders (\textit{kandi}) from the state for such pieces of land and were ready to pay even rupee one per \textit{beegha} for the same\textsuperscript{45}. Some of the resources acquired at the village level also went into securing \textit{pateli} rights in new areas by paying a \textit{peshkash} to the state\textsuperscript{46}. As compared to the \textit{patels} and \textit{sahas}, resources of an ordinary peasant household were quite limited. The state repeatedly asked the peasants to bring the \textit{beed} under cultivation by extending various incentives in the revenue rates. Such appeals could not have been made if the revenue demand drained away the entire surplus from the villages. There are several references of distribution of five \textit{beeghas} of \textit{beed} to each peasant plough unit in order to increase the area under cultivation in the village. Such references are found in the reports sent by the local officials as well as in the undertakings given by the \textit{karsa} along with the \textit{patels}. Therefore, it appears to have become a standard practice\textsuperscript{47}. Since, one plough unit was 60 \textit{beeghas} of land it can be conjectured that an eight percent increase in the cultivated area by a peasant household was considered to be an acceptable target. Thus the peasant form of production was still in a position to produce as well as enlarge itself.

However, growth of a rich peasant sector in the village society was not always a smooth and steady process. In \textit{mauza} Rasulpura out of the six \textit{patels} in c. 1698, two had disappeared from the scene by c. 1709 and the number of plough units being cultivated by the other four had also been reduced\textsuperscript{48}. Many a times a \textit{patel} gave up his \textit{pateli}, ostensibly for not being in a position to shoulder the responsibility of ‘\textit{jameet}’ any longer\textsuperscript{49}. Thus a \textit{patel}, inspite of concessional revenue rates could also lose his capacity to mobilise labour and capital resources. Flight of a \textit{patel} from the village in case of being unable to

\textsuperscript{44} Jamabandi of mauza Mundana, s. 1766, K.B. 1/61
\textsuperscript{45} Dharti ki kendi ki toji, s. 1780, K.B. 1/108
\textsuperscript{46} Khate Nawa Gaon Basaya taya ka patela su cheethyan, s. 1840, K.B. 1/65
\textsuperscript{47} Asadh ki jameet in khalsa villages. s. 1784, K.B. 1/121-133; adhsatta, M. Babli, op. Cit.
\textsuperscript{48} Halon ki bahi mauza Dhansuri, attached to Likhant of the patel patwari, Chait vadi 13, s. 1760, K.B. 1/37
\textsuperscript{49} Firohi realisation from various villages, pargana Jaitpura, s. 1808, K.B. 1/135
pay the *dand*\(^{50}\) (penalty) shows, that even they were not immune from any vicissitude in their fortunes and even a petty imposition could lead to flight or migration and consequent loss of one's resource base.

A part of these resources accumulated at the village level went into creation, improvement and maintenance of irrigation facilities like building a *bawri* (stepped well) etc. The state promoted such activities by granting five *beeghas* of land to develop a private garden to the person who invested in such a community service\(^{51}\). Most of such grants being received either by the *sahas* or the *patels* suggest that they were the one who had enough investible surplus for expansion and improvement projects. A *patel* who was able to sink a well through his own resources was conferred the right to use the well exclusively but only as long as he could work it\(^{52}\). An ordinary peasants could hardly dream to have a well in his fields. However, not all the resources went into improvement and expansion of agriculture. A part of these resources was also spent in improving the lifestyle and to boost the social status.

The increasing need for external support felt by a section of the *karsa* could be met only through growth and expansion of the credit network. It was a normal practice for the state to give various incentives to the *bohras* for spreading their credit network in the rural areas. Often the state also instructed the *patels* to arrange for *khai beej* loans from the *bohras* for the peasants, which were to be returned after the harvest\(^{53}\). Thus arranging credit for the peasants through the *patel* made the state indirectly and the *patel* directly responsible for repayment of such loans. Many a time state mediated between the peasants and the *bohра* and fixed the repayment procedure particularly in case of default. A Bheel cultivator who had failed to repay his

\(^{50}\) *Likhant* of *patel Pura of mauza* Gugalhed and Hanuta, Asadh sudi 4, s. 1761, K.B. 1/37., *Likhant of Bhai Kisan Singh, jagirdar of mauza Supra*, Asadh sudi 3, s. 1808, K.B 1/135

\(^{51}\) Umed Singh to *patel Chitra and Khema*, Baisakh sudi 8, s, 1835, *Khata Nawa Taluka ka* K.B. 1/62

\(^{52}\) Durjan Sal to *patel Nathu of mauza* Bhadaheda, op. cit

\(^{53}\) Umed Singh to *bohra of mauza* Duragpura *pargana* Gagron, Asadh vadi 6, s. 1840, K.B. 3/1
loans was instructed to pay in fixed installment. However, the bohrs were not allowed to deprive the peasants of their bullocks and ploughs to realise the outstanding loans. Normally, the credit was for fixed duration and at usurious rate of interest popularly known as sal sawai. Thus the rural credit when advanced through mediation by the state was an agent of the state or, if managed by the peasant on his own was in the form of usury. Many resourceful people indulged in usury besides the bohrs. Usury in countryside had become so popular that even one of the kahars (Water Bearer) of Kota chief was indulging in it. The patras recovered from him show that he was providing khai beej loans in kind as well as loans in cash to buy bullocks for fixed duration to the peasants. The borrower had to return dodh, i.e. one and a half time of the kind or cash actually borrowed from him. Normally, the loans were to be returned at the time of harvest without any further delay. Such credit was often sought on a personal basis. Some time it was against security, which was often the land itself. The land mortgaged could be transferred to the mortgagee in case of nonpayment. If the mortgager cleared the loan as well as the expenses incurred by the mortgagee for securing such a transfer, he could lay his claim on the land again, but the decision was to be taken by the state. Due to these negative features of credit it was bound to increase the contrasts in the pattern of resource distribution in rural society.

Spread of credit network inspite of its negative features was necessary for a shift from extensive cultivation oriented towards subsistence to intensive cultivation, oriented towards market. In mauza Rasulpura, the peasants, himayatis and patels all had roughly four beeghas per plough unit under zabti assessment. Similarly, in mauza Arankheda out of 700 beeghas of zabti in kharif under himayatis and pateli plough units, while the remaining 636

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54 Umed Singh to Bheel Ratna and Nathya, Jeth sudi 15, s. 1840, K. B. 3/1
55 Ibid
56 Patras of Khar Aja, s. 1767, K.B. 1/64
57 Umed Singh to Dhakar Harji of Kethun, Asadh sudi 10, s. 1779, K.B. 1/97
58 Bheem Singh to hawalgi of Kethun, Jeth vadi 10, s. 1765, K.B. 1/61
59 Takhmina mauza Rasulpura, s. 1766, K.B. 1/60
beeghas were under the karsa plough units in c. 1699. In rabi also out of 136 beeghas in zabti, 132.25 beeghas were under peasant plough units. The peasants also had a significant share in the rabi production consisting mainly of wheat and gram. In mauza Khedli almost 55 percent and in mauza Arankheda, almost 80 percent of rabi production was in the peasant plough units. Participation of ordinary peasants in superior variety of food grains and cash crop production in early 18th century almost on par with the himayatis and the patels suggests that there was growth of credit network, although it can not be always verified from the documents. This growing link of agriculture with market credit exposed the peasant production to market forces, many a times resulting in heavy losses. For instance, in mauza Rasulpura, number of peasant plough units was reduced considerably within the next ten years and administrative steps for rehabilitating the village had to be taken by giving the mukata to a thakur. He was allowed to settle his vasi in the village by inviting new cultivators for the area earmarked for the vasi halas. This change in the agrarian picture of the village could be because of such losses suffered by the peasants, as there is no reference to any natural calamity during the period. Usurious credit often compelled the smaller peasants to revert back to subsistence and extensive agriculture. However, those who enjoyed concessional revenue rates and had been able to create an adequate resource base not only managed to survive but also enhanced their position further.

The state policy towards agriculture is brought out by the kasht-ka-pattas issued by the Kota chiefs from times to time. The earliest kasht-ka-patta available is for mauza Barod. Similar pattas were issued for several other villages in various parganas in 18th century. One of the pattas refers to a request made by the patel and karsa to issue a patta parwana along with the assurance to bring the entire land under cultivation on the basis of the

60 Zabti Khanf ki in khalsa villages, s. 1760, op.cit.
61 Ibid
62 Mukata of mauza Rasulpura and other attached papers s. 1766, K.B. 1/60
63 Kasha ka patta, mauza Barod, s. 1729, K.B. 1/1
provisions made in the patta\textsuperscript{64}. Such request and assurances and the practice of issuing kasht-ka-pattas suggest that the peasants were conscious of the impact of state demand on agriculture and any confusion about revenue rates acted as a deterrent in extension of area under cultivation. The pattas mention bata wa lata and zabti revenue rates. One of the pattas issued in c.1721 stated that revenue for tobacco and maize was to be realised according to ‘sherkhani jama’\textsuperscript{65}. It can be inferred from these references that multiplicity of methods of assessment and realisation could not be sorted out even by 18\textsuperscript{th} century and some of the earlier arrangements continued to linger on even after integration in the Mughal revenue system. Obviously this multiplicity could not be removed simply by an administrative choice. It was not possible to ignore the ecological factors and the agricultural practices prevailing in the region. It was also related to the bargaining position of the peasants with the state. So the pattas reflected the state endeavor to set aside any doubts which the peasants had about the revenue rates and method of assessment and to spell out the state policy about agriculture. It appears from these pattas that both jinsi and zabti mode of realisation prevailed in the region. While most of the cereal crops like jowar, wheat, kodu, kagni, gram and oil seeds were under jinsi, cash crops like cotton, sugarcane, jute etc. were under zabti. Maize, which was a relatively new crop, is mentioned in the patta of c. 1671 and the peasants had option to pay revenue for it under any of the two modes\textsuperscript{66}.

Land revenue or ‘*mal*’ has been defined as essentially “a claim” on behalf of the state to “a share of the actual crop”\textsuperscript{67}. Studies of eastern Rajasthan also

\textsuperscript{64} Kasha ka patta, mauza Teetarwasa, Asoj vadi 11, s. 1780, K.B. 1/108 ; Arjan Singh to hawalgar of kasba Awa, Chait sudi 10, s. 1778, K.B. 1/127

\textsuperscript{65} Arjan Singh to hawalgar of kasba Awa, op. cit

\textsuperscript{66} Ibid.

\textsuperscript{67} The Cambridge Economic History of India, vol. I ed. T. Roychaudhary and I. Habib, Delhi, 1984, pp. 235;

I. Habib, “Forms of Class Struggle in Mughal India”, in Essays in Indian History, New Delhi, reprint, 1998, p. 237
bring out that *mal* was the 'original tax' on the crop\(^{68}\) and 'a claim' on behalf of the state to a share of the actual crop\(^{69}\). So by the end of 17\(^{th}\) century the cardinal principles of Mughal revenue system had been accepted and assimilated by the Rajput principalities of Rajasthan. In the *kasht-ka-pattas* the Kota chiefs are found to be repeatedly warning the peasants, to charge 'purkas jama' (full revenue) if *samhi* land was left uncultivated.\(^{70}\) Moreover, to charge rupees 1.50 per *beegha* if the peasants opted to cultivate the land of the neighbouring village at the cost of their own village land lying uncultivated\(^{71}\) and to charge rupee one per *beegha* if the peasants failed to convert the *parat* (unploughed) land into *hakat* (regularly ploughed land)\(^{72}\) This effort to interpret a claim as a right shows the ideological pretensions of the Kota chiefs. The material basis for such an assertion was provided primarily by the nature of black soils found in the region. The land which had been subjected to deep ploughing over the years became exposed to the risk of growing *kas* (a type of vegetation) and loss of moisture if left unploughed. It could destroy the cultivable quality of the land for years to come. Therefore, to maintain the production cycle on the land, which was *hakat* i.e. had already been brought under the ploughs was as important in the long run extension of the area under cultivation. A threat of reducing the rich black soils into agricultural waste played an important role in modifying the nature of 'mal' at least at the implementation level. It also warranted an increasing state intervention in agricultural production as a regulatory. Thus the ecological factors were crucial in determining the state policy towards peasants and land.

Inspite of both *jinsi* and *zabti* methods of assessment and collection of revenue prevailing in Hadauti, unlike Eastern Rajasthan, there was no clear


\(^{69}\) D. Singh, *The State*, p. 109

\(^{70}\) *Kasha ka patta, mauza* Rasoti, s. 1776, K.B. 1/85

\(^{71}\) Durjan Sal to *hawalgir* of *pargana* Sangod, Jeth vadi 9, s. 1783, K.B. 1/118
shift from *jinsi* to *zabti* in the first half of 18 the century and a reversion of *jinsi* by the peasants in the later of the century\textsuperscript{73}. In fact, the *jinsi* method itself was being modified in various ways to suit the local conditions. The state share in *jinsi* methods was expressed as *bata*. This share in kind was realised by way of *lata*. Often the two terms *bata-lata* were used together as two stages of the same process\textsuperscript{74}. It seems that *lata* implied that the state share was realised after threshing and actually measuring the grains\textsuperscript{75}. There is little information in the documents about the seed requirement and whether the division took place after setting aside the grains needed as seeds for the next crop. In c. 1718 there was an attempt to introduce *kateta* instead of *lata* but it was withdrawn after a couple of years\textsuperscript{76}. In the later half of the century *kateta* seems to have gained greater acceptance and many villages had opted for *kateta*. It was a conjectural estimate of realising the state share by finding out the "*naj katef*" i.e. the produce for one *beegha* and than multiplying it with the 'rakba of kateta' i.e. the measured area under the same crop.\textsuperscript{77} This new method was to be a substitute of *batai*, and appears to be somewhat similar to *kankut*. In c. 1718 when *kateta* was adopted the revenue realisation suddenly went up but when reverted back to *lata* it went down so much so that a *mukatadar* became unwilling to carry on with the *mukata* on the grounds of this shift back from *kateta* to *lata*\textsuperscript{78}. Obviously *kateta* would have enabled him to realise highly inflated estimate of state share\textsuperscript{79}. Reversion to *lata* would tend to reduce the realisation against the amount payable for the *mukata* to the state. It suggests that the burden under *kateta* would have been

\textsuperscript{72} Likhant of patel patwari and *karsa* of mauza Luhawad, Asadh vadi 14, s. 1838, K.B. 3 /1 and Umed Singh to patel patwari of mauza Badoli, *pargana* Mangrol, Jeth vadi 2, s. 1851, K.B. 1 /68
\textsuperscript{73} D. Singh, The State, op. cit. P. 110
\textsuperscript{74} Pandit Daulat Ram, saha Lalchand, from Sangod to Khawas ji Sri Ramji and Chaudhary Har Govind, Phagun vadi, 11, s. 1784, Toji, K.B. 1/38
\textsuperscript{75} *Jamabandi mauza* Barod, s. 1729 op. cit
\textsuperscript{76} Arjan Singh's order, Bhadva vadi 6, s. 1779, Toji K.B. 1/97
\textsuperscript{77} Umed Singh's order to patel patwari and *karsa* of mauza Badoli, *pargana* Mangrol, Jeth vadi 2, s. 1851, Toji parwana, K.B. 21 /6
\textsuperscript{78} Harbakht Singh Jhala appealed that rupees 3312 fixed for *mukata* of mauza Bharsuva was to much in view of the reversion to *batai*, so it was reduced to rupees 2900, Arjan Singh's orders, s. 1779, op. cit
\textsuperscript{79} A A R , op. cit
greater than lata. However, in 19th century Tod observed that "raiyyat preferred 'kunt' to lata because the process was soon over and they were done with the state". The come back stages by kateta in the later half of the 18th century was related to this popularity of kateta kunt. Perhaps, by this time the peasants had been able to discover the hidden advantages of this method and instead of allowing it to work against them had learnt to use it against state itself. As also observed by Tod that kunt was liable to much greater abuse than lata because "a bribe to the officer was sufficient to be fool the state while in lata more skill was required to cheat the state". Thus, there were changes within the jinsi method itself. However, it continued in both the forms kateta as well as bata-lata although, by the end of the century in some villages jinsi was just 40 percent of the total realisation as against 60 percent in zabti during khari81.

Another major feature of state policy was variation in the revenue rates not only for the different categories of the cultivators but also according to the quality of soils, distance of the agricultural land from the village, continuity of the production cycle as well as irrigated or unirrigated crops. The rates for gorva (the land around the villages), was higher than kheda (land situated at a distance from the villages). The rate of samhi land was higher than for parat and been land. The policy towards seko (irrigated) and sewaj (unirrigated) land was based upon many considerations82. If a peasants grew some crops around an already existing well the rate was higher than the land around a recently sunk well83. A concession was admissible to condone for the labour the capital invested in the well for first two or three years. If a peasant developed water channels to irrigate the crops situated at some distance from the well the rate of revenue was less than the crops grown around the well for the same reason. Often the state instead of fixing the rate for irrigated crops

80 Ibid
81 Tazkara, mauza Beeldi, op. cit
82 The kasht ka patta, mauza Barod, op. cit
83 mauza Teetawasa s. 1780, mauza Kanwada s. 1780, K.B. 1/108
84 Umed ganj ki ramreet, Jeth vadi 4, s. 184, Khate, K.B. 3/3
other than sugarcane in zabti chose to realise the state share in kind. It appears that it was difficult to visualise and assess the exact impact of irrigation on production in advance by both, the state and peasants. Therefore in order to encourage development of irrigation facilities and not to retread it by either unnecessarily heavy revenue rates or by bearing any loss of revenue, the best option was realisation in kind. Thus in order to make the revenue rates match the agrarian reality as far as possible, multiplicity and variations were essential. In mauza Barod as many as eight different rates prevailed between the bata of 1/3 to 1/3.25 at the end of 17th century. The variations in the revenue rates increased further in 18th century. For instance the unirrigated crops also came to be subdivided into those which required patai and the ones which did not require patai. The increasing variation was a result of expansion and improvement of agriculture. For instance mal land had come to be differentiated as the pre-existing mal and the one developed later on the riverbanks, or in the cleared forest area, or in the flood area of a river.

Normally, the rates for kharif crops were higher than rabi. The state shares in kharif jinsi bata ranged from 2/5 to 1/2. It seems that jinsi bata for coarse crops like kodu, kagani etc. had decreased from 1/2 to 2/5 by the end of 18th century. For jowar it remained fairly stable at 1/2 for almost the entire period whereas, for wheat gram and alsi it increased from 1/3 to 2/5 over the years. The kasht-ka pattas also mention kharch (expenses) and if the revenue rate was inclusive of kharch it was termed as sukharch, and if exclusive of kharch as nekharch. If the kharch was to be realised over and above the mal it was categorically stated as kharch desi. The expenses for the functioning of revenue machinery were realised under various heads like sarahi, kabaj, habuba, kagal and izafa. Such references start disappearing in the later half of 18th century. Perhaps by this time kharch has got merged with the original

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84 Jamabandi mauza Barod, s. 1729, op. cit
85 Ibid
86 The kasht ka pattas, op. cit.
87 Kasha ka pattaa, mauza Barod, op. cit
88 Jamabandi mauza Barod, s. 1729, op. cit
tax. In the *jamabandis* also references to *kharch* disappear in the later period. Whereas earlier *mal-jihat* and *sair* were all mentioned separately. In the *khalsa* villages the state share in *kharif* and *rabi* crops was roughly 37 percent and 33 percent respectively. Thus the *rabi* crops were assessed lightly in order to promote two crops in a year. In terms of production, 54 to 63 percent was in *kharif* and 36 to 45 percent in *rabi* but in terms of realisation (due to lighter rate of revenue for *rabi*), 65 percent was in *kharif* and 34 percent in *rabi*. The money value of state share kept fluctuating due to changes in the price level.

The cesses levied over and above *mal* varied from village to village but some commonly levied cesses were *kholdi*, *neg*, *aheetha*, *kaimini*, *fota*, *inam*, *mapa*, *muda*, *firohi*, *gharijana* etc. While *mapa* was realised on sale of goods, *muda* and *gharijana* were penalties levied on concealment of crops and the act of acquiring a woman without social sanction. *Firohi* was a generic term for penalties realised for violation of social norms. *Kholdi* was realised from the non-agriculturist households in a village other than the *himayatis*. *Neg.*, *aheetha* and *kamini* were the customary shares of the non-agriculturist of the village on peasant’s produce, while *fota* was the village fund. These cesses were clubbed in the *jamabandis* as *sair*. While the various heads of *kharch* as *jihat*. Altogether realisation in these two categories was about 25 percent of the total realisation in *kharif* and 20 percent in *rabi*. Bulk of this realisation was in the category of *muda*, *gharijana*, *firohi* and *mapa*, which are the non-agricultural taxes.

The high percentage of *jihat* and *sair* in relation to total revenue and its uneven distribution was carried further in 18th century in the form of imposition of several new taxes like *bighori* and *jamdari* as well as new levies realised as *birads* on various occasions. Earlier, *bighori* was realised only from the land.

89 *Jamabandi mauza* Barod, s. 1729, op. cit
90 Ibid
91 Ibid
92 Ibid
given as *chakri ki dharti*, normally at the rate of rupee 0.25 per *beegha*. Now it had become a tax realised from all section of cultivators on each plough unit\(^{93}\) (sixty *beeghas*) but towards the end of 18\(^{th}\) century the rate had been increased upto rupees six or seven per plough unit\(^{94}\). Not only the *karsa*, but also the *dolhi* landholders were made to pay *bighon*\(^{95}\). However, many a time the state waved it off on the *gharu halas of jagirdars*, state officials and *sahas*. *Jamdari* was imposed to rope in the non-agriculturist population, though not at a fixed rate. It varied from rupee 2 to 0.25 according to the paying capacity of the *assami* as assessed by the state\(^{96}\). Even the *halis* (ploughmen) and *rojgarde* (wage earners) who lived only on their labour were not spared\(^{97}\). Besides, every year several *birads* were imposed such as *bhalmansi*, *patel* and *patwari birad*, and *Ghodi birad* to raise money\(^{98}\). Even the *potdars* were subjected to a *birad* known as *roshan*\(^{99}\) (*birad* on ink used by the *potdar*). The burden of these *birads* either, directly or indirectly fell on the peasants. Dhakar peasants of *mauza* Badoli petitioned against this unbearable burden in c. 1783\(^{100}\). They complained of rupees ten being realised per plough unit over and above the assessed revenue. Rupees 4.50 as *anikar (*bighori*), 4.50 as *bhalmansi* and rupees one per head on the hired labour used by them. They pleaded to be relived of the intermediaries like *tahasil* *patel* and *patwari* and to be allowed to deposit their dues directly at a place specified by the state\(^{101}\). Apparently the burden of state demand, combined with the smartness of he intermediaries to pass on the *birads* levied upon them also to the peasants. The income from these taxes and *birads* which was stated as

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\(^{93}\) Ibid; Umed Singh’s order to patel patwari and *karsa* of *pargana* Nandgaon, Sawan vadi 5, s. 1845, *Khate*, K.B. 3/66  
\(^{94}\) Ibid; *Likhart*, patel , patwari, *karsa* of *mauza* Deikhera, *tafa* Panwar, Posh sudi 5, s. 1846, mentions the rate as rupees six per plough unit and other birads realised as patel, patwari, *sasri* and *balai birads*, *Khate*, K.B. 3/3  
\(^{95}\) *Khate*, *kasba* Kujod ki *bighori jamdari ka*, s. 1843, the rate of *bighori* in this *kasba* was as high s rupees seven per plough unit, K.B. 1/66  
\(^{96}\) Ibid  
\(^{97}\) Ibid  
\(^{98}\) Some of these *birads* were, *ghodi birad*, *bhalmansi birad*, *hala birad* etc. *jama tafa* Mohi, *pargana* Barsana, *Khate*, s. 1844, K.B. 1/66  
\(^{99}\) Durjan Sal’s order to *hawalgir* of Kujod, Sawan vadi 8, s, 1806, *Toji*, K.B. 1/135  
\(^{100}\) *Araz* of Dhakar peasants (undated) attached to the order issued by Umed Singh, Baisakh vadi 11, s. 1840, *Khate*, K.B. 3/3  
\(^{101}\) Ibid
vaje hasil in the state records amounted to 5.82 percent of the total realisation made in c. 1711. It would have gone up further when in Zalim Singh’s period the rate of bighori was raised to rupees seven per plough unit. Ever increasing state demand on the peasants some times became unbearable. The peasants of kasba Narsingarh petitioned that they would ‘take up land for cultivation’ and call back the peasants who had migrated away, only if given some concessions. The difficulties, which the peasants were facing in carrying on normal agricultural operations, were on the one hand due to the heavy state demand and on the other due to an impending threat to their crops and cattle in the politically disturbed conditions. However, such complaints were made in abnormal circumstances only. In normal circumstances the peasants tried to cope with the state demand.

Some idea of the extent of cultivation in early 18th century can be taken from the adhsattas which, refer to the measured surface of the village as two distinct categories of ‘kadim’ (longstanding) and ‘halmapya’ (recently measured). It seems that a fresh survey had been under taken in the year c. 1718. While compiling the result of this survey one of the officials noted that land of villages had decreased in the villages of pargana Baran and Barod. In pargana Nandgaon (Kota), in some villages it had increased while in others it had decreased as a result of chakbandi undertaken in c. 1718. It implies that either, the earlier survey had been rendered meaningless due to the changes over a period of time or had been hypothetical, or the state wanted to fix the chak beeghas afresh to settle new villages by taking land away from certain villages. Some idea of the validity of imperial statistics can also be obtained from the jamadami of pargana Baran for year c. 1714. The pargana had 95 villages with jama of dam 1,29,25,573 but it was raised to 1,92,91,349 in that year. This increase (izafa) could hardly be related to an almost 50 percent rise

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102 Nandgaon ka sirista, s. 1776, K.B. 1/84 and Toji Kunwarpada etc. op. cit
103 Umed Singh’s order to hawalgar of pargana Narsinghgarh, Magh sudi 1, s. 1828 Toji, K.B. 1/134
104 One such survey was conducted in s. 1774/c. 1717 which has been referred to in the documents, see Sirista Nandgaon ka, op. cit; Jama Vasil, pargana Anta, s. 1853, K.B. 1/68
105 Kota records
in production or revenue. In fact the actual revenue returns from *pargana* Baran in c. 1718-19 were just about 1/12 of the original *jama*\(^{106}\). So the increase was simply to accommodate the claims of the *jagirdars* by inflating the *jama*. It was for this reason that it was necessary for the Kota chiefs to form their own assessment about the area statistics and about the revenue yield at the local level. It may be concluded that though in principle the Mughal revenue system had been accepted but the imperial statistics prepared initially were revised in 18\(^{th}\) century in order to take into account the agrarian reality prevailing in the region. It required an intensive exercise at the local level from time to time.

There were ample differences in the choice of crops from *pargana* to *pargana*. According to Nainsi in *pargana* Mau of Hadauti *sal* (coarse rice) *vad* (sugarcane) wheat and gram were main crops\(^{107}\). The picture in the plains of Hadauti was a little different. The major *kharif* crops in 17\(^{th}\) century was jowar, which served as the staple food for the common people, testified by payment in kind for labour invariably in jowar\(^{108}\). In *mauza* Barod the major *kharif* crop was jowar, which was about 57 percent of the produce assessed under *jinsi*, the rest being sesame pulses and other coarse grains\(^{109}\). In *mauza* Rasulpura, Khedli and Arankheda jowar was the only *kharif* crop in *jinsi* assessment, through, small quantities of pulses and sesame were also grown\(^{110}\). Jowar retained its primacy as a food crop grown in *kharif* even in 18\(^{th}\) century. In the *Asadh ki jameet* (preparing the fields for the eve of monsoon) of *khalsa* villages in *pargana* Mangrol the peasants opted mainly for jowar in *jinsi* even in c. 1727\(^{111}\). Even in late 18\(^{th}\) century jowar was the main *kharif* produce of even the *sarkari halas*, spread over 13 villages, amounting to as much as 64 percent of the total food grains in *kharif*\(^{112}\). The

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106 Mauza Babli ka adhsatta, s. 1784, K.B. 1/121-133  
107 Khyat, I, op. cit p. 102  
108 Roznamcha Kharch Silekhana, s. 1726 and kharch Ambar, s. 1742, K.B. 1/1  
109 Jamabandi, mauza Barod, s. 1729, K.B. 1/1  
110 Toji, 1755, K.B. 1/30  
111 Dovarki khalsa gaon ki Asadh ki jameet, s. 1784, K.B. 1/121-133  
112 Jhada Topkhana Talak, s.1839, KB1/65
primacy of jowar as a *kharif* crop was lined to its suitability for stiffer soils and more rain which were present in Hadauti. This requirement could not be fulfilled in Amer region. As a result jowar could never become the main *kharif* crop and moth-bajra continued to dominate the scene in the long term, occupying about half of the cultivated areas and 30 to 40 percent of the revenue received\(^{113}\). The areas, which were filled with rainwater, cultivated rice. The two local varieties of rice grown were *garda* and *gardi*\(^{114}\). The sowing practice of rice adopted both the methods, sprinkling the seed as well as planting about one month old sapling.

Another *kharif* crop, which was present in Hadauti by 17th century, was maize. Arrival of maize in Hadauti could have been even a little earlier. The use of the term ‘*Sherkhani jama*’ being realised for maize suggests its presence in 16\(^{th}\) century\(^{115}\). The *kasht ka pattas* issued in c. 1672 mentioned the rate of assessment of maize in kind as well as cash for both *gorva* and *kheda*\(^{116}\). However, in actual realisation of revenue maize did not figure in many villages even in 17\(^{th}\) century. In c. 1727 in *mauza* Patheda of *pargana* Baran maize was 1/7 of the produce\(^{117}\). In *mauza* Beeldi of *pargana* Cheepa Barod at the end of 18\(^{th}\) century maize was sown in 39 *beeghas* out of 169 *beeghas* under zabti assessment. In Beeldi, almost all the cultivators were growing maize though in small patches of *bardi* soils whereas *mal* was being used for other crops\(^{118}\). In the *sarkari halas* in the later half of 18\(^{th}\) century maize was grown but only in some of the villages\(^{119}\). The reason for a limited production of maize could be that it could not be grown as a mixed crop. Whereas leguminous crops like pulses, mung and urad were grown as mixed crops with jowar in *kharif*. It appears that the proportion and acceptability of

\(^{113}\) D. Sing, *The State*, pp. 70-82

\(^{114}\) For instance the *khedas* of 18 villages in *pargana* Urmal were emersed in water during the rainy season, Toji Taqsim, s. 1754, K.B. 6/1 *Ummedgarj ki ramreet*, Jeth vadi 10, s. 1846, K.B. 3/3

\(^{115}\) Arjan Singh to hawalgir of kasba Awa, op. cit

\(^{116}\) *Kasha ka Patta* M.Barod, s.1729 KB1/1

\(^{117}\) Ubi *pargana* Baran, s. 1784, K.B. 1/121-133

\(^{118}\) *Mauza Beeldi ki kharif ki zabti*, Khasra, s. 1856, K.B. 1, op. cit
maize had been greater in certain parganas than others, depending upon the available soils.

The two common cash crops were sugarcane and cotton. The planting season of sugarcane ranged from Magh to Baisakh and could be reaped either in Kartik or in Chait. The sugarcane plant can be ratooned for two or three years. The revenue of sugarcane varied according to the irrigation requirement and the labour involved in the irrigation process. The sugarcane grown around wells and in rabi was subjected to heavier rate of revenue than the sugarcane grown in irrigated beds and in kharif. The sugarcane around wells could be watered easily than the one spread over the field, and far more irrigation was required to reap in Kartik than in Chait, as there was less water evaporation in winter than in summer. Sugarcane around wells was also a soil binding device and thus an additional advantage. There reference to peasants sowing sugarcane around a well situated in a field with a wheat crop, which though grown through sewaj by patai would always benefit from water fed to the sugarcane. In c. 1672 the realisation from sugarcane in mauza Barod was four percent of the gross realisation in kharif and rabi120. In some of the khalsa villages, it occupied 8.63 percent of area in zabti of kharif though, it appears to be less popular than cotton cultivation121. As compared to smaller villages there was more area under sugarcane in the kasbas122.

The information available for 48 khalsa villages spread over five parganas in c. 1703 suggest that cotton was the main cash crop in kharif123. The area under cotton was invariably higher than sugarcane. The total area under cotton in kharif was 48 percent of the zabti and at times even up to 99 percent in some of the villages, the other crops being just one percent of the area

119 Out of 13 only. 4 villages were growing maize in very small quantities, Jhada Talak Topkhana, op. cit.
120 Jamabandi, kasba Barod, s. 1729, Toji, K.B. 1/38
121 Zabti kharif ki in khalsa villages, s. 1760, op. cit
122 Ibid
123 Ibid
under zabti\textsuperscript{124}. The suitability of mal land for cotton had come to be utilised fully by the peasants. Cotton could be growing in both the varieties of mal, kali and pelo without artificial irrigation. The speed requirement was very high, about twenty seers per acre, and sowing had to be done at least twice or thrice\textsuperscript{125}. Seeds were mixed with cow dung, rubbed with hand to remove the fibers and then sown with drill method in rows and a patta was drawn over the rows to prevent evaporation of moisture. Combined with the production of cotton some villages were growing indigo and some other al and kasumbo, the red colour dye giving plant amounting to roughly 14 percent of the total area in zabti\textsuperscript{126}. In kasba Sangod and kasba Barod the area under al was 58 and 68 percent respectively for exceeding the area under cotton in the two\textsuperscript{127}. In kasba Sangod a Turki bohra was having a sixty-beegha field for cultivating al exclusively, though one of the local patels was keen to get it transferred to him\textsuperscript{128}. An interesting practice was to mix sugarcane with other crop like wheat in the same field, in early 18\textsuperscript{th} century\textsuperscript{129}. At times till was also grown as a mixed crop with cotton\textsuperscript{130}. However, the results of this experiment can not be ascertained due to lack of information.

In rabi a major crops was gram which in mauza Barod was about 92 percent of the rabi in c. 1672 remaining being alsi\textsuperscript{131}. However, by the end of the century a lot more diversification in rabi crops was visible. In mauza Arankhedha in c. 1697 wheat was 94 percent of the rabi produce, and the rest was alsi, gram, barley, arhar and cardamom\textsuperscript{132}. At the end of 18\textsuperscript{th} century wheat cultivation in rabi reached an all time high and in mauza Rajpura of pargana Baran in c. 1796, the food crops production in rabi was more than

\textsuperscript{124} Ibid
\textsuperscript{125} Jamabandi, mauza Barod, op. cit
\textsuperscript{126} Zabti kharif ki, op. cit
\textsuperscript{127} Ibid
\textsuperscript{128} Durjan Sal to hwalgir of pargana Sangod, Jeth vadi 9, s. 1783, K.B. 1/118
\textsuperscript{129} Durjan Sal to patel Nathu of mauza Bhadaheda, op. cit
\textsuperscript{130} Mauza Arankhedha ka malbo, so. 1755, Toji, K.B. 1/30
\textsuperscript{131} Jamabandi mauza Barod, op. cit
\textsuperscript{132} Mauza Arankhedha ka malbo, op. cit
four times of *kharif*. The growth of wheat production in *rabi* was accompanied by reduced area under cotton, kasumbo, al and tobacco in *kharif*. It could be either, because of shrinking demand for cotton, kasumbo and al which compelled the peasants to go for wheat or, the shifts could be because of the labour intensive process of cotton cultivation as compared to wheat. Since, by this time certain non-peasant sections had also come to be involved with the process of agricultural production, their role could also have been decisive in this shift.

The agricultural production pattern also comes to be dominated by the market. In the wake of rising prices of food grains, cotton cultivation was not considered to be as profitable as before. The decline of cotton cultivation, which was one of the main cash crops in many parganas, towards the end of 18th century, was largely due to the impact of market on the peasants. *Parganas* like Baran, Kethun, Barod, Kota, Sangod had significant cotton yield in the early 18th century. However, towards the end of the century cotton cultivation had become limited and got confined primarily to the *sarkari halas*. Taking the revenue rates as an indicator of peasant’s interest in cultivating a particular crop the changes in the revenue rates for cotton suggest that the peasants were gradually loosing interest in it.

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133 *Awarja, mauza Rajpura, s. 1853* in *Tazkara, s. 1859*, K.B. 9/1
134 Ibid
135 *Zabti Kharif Khalsa gaon ki* s. 1760, K.B. 1/37; in the forty five *khalsa* villages spread over these *parganas* cotton crop was sown in 48.50 p.c of the area under zabti assessment.
136 Kharsa papers for various villages contained in *Tazkara batai Latai mapai Chauthan* s. 1853, K.B.9/1 show shrinking area under cotton cultivation, for produce of *sarkari halas*. 
Revenue Rates for Cotton and Maize

<table>
<thead>
<tr>
<th>Village</th>
<th>Year</th>
<th>Crop</th>
<th>Rate (in Rupees per beeghas)</th>
<th>Crop</th>
<th>Rate (in Rupees per beeghas)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Barod</td>
<td>c. 1672</td>
<td>Cotton</td>
<td>0.50-1.00</td>
<td>Maize</td>
<td>1.00</td>
</tr>
<tr>
<td>Saraheda</td>
<td>c. 1708</td>
<td>-do-</td>
<td>1.00</td>
<td>-do-</td>
<td>1.00</td>
</tr>
<tr>
<td>Teetawas</td>
<td>c. 1723</td>
<td>-do-</td>
<td>1.00-1.25</td>
<td>-do-</td>
<td>1.25-2.50</td>
</tr>
<tr>
<td>Kanwada</td>
<td>c. 1723</td>
<td>-do-</td>
<td>1.15-1.20</td>
<td>-do-</td>
<td>1.25-2.25</td>
</tr>
<tr>
<td>Godelya hedi</td>
<td>c. 1726</td>
<td>-do-</td>
<td>0.50-1.15</td>
<td>-do-</td>
<td>1.15-1.20</td>
</tr>
<tr>
<td>Kanwarpura</td>
<td>c. 1788</td>
<td>-do-</td>
<td>0.75-1.00</td>
<td>-do-</td>
<td>1.25</td>
</tr>
<tr>
<td>Tal</td>
<td>c. 1784</td>
<td>-do-</td>
<td>1.00</td>
<td>-do-</td>
<td>1.75-2.00</td>
</tr>
<tr>
<td>Rawtha</td>
<td>c. 1801</td>
<td>-do-</td>
<td>nil</td>
<td>-do-</td>
<td>1.00-2.00</td>
</tr>
</tbody>
</table>

The rates were at the peak in the third decade of 18th century but came down to the old level towards the end of 18th century. It shows that the peasants were keen to go for food crops, which were so much in demand due to reoccurring famines in several areas around Hadauti. Since the revenue on food crops was realised mostly in kind the changes there in can not be seen directly. Cash revenue rates are available only for maize which show that the level of third decade of 18th century was maintained. This difference in the trend suggests a lack of interest in cotton cultivation as compared to food crops.

Although, the statistical data used here is sporadic as compared to some other studies, it can be safely argued that in most of the parganas kharif remained larger of the two crops. Although, cash crops like sugarcane, tobacco etc had become popular but there was tendency to fall back to food grain production. In the food grains jowar retained its primacy inspite of arrival of maize and growth of wheat cultivation in rabi. It remained largely dependent on sewaj method rather than seko. This implied that two crops in a year could not be taken on the same field. Therefore, even those cultivators who raised two crops in a year could use only a fraction of their land (which
could be irrigated) for intensive cultivation. Bulk of the land could yield only one crop a year due to this constraint. Besides, to get a second crop even if on another patch of land, regular ploughing of the unsowed field required additional labour resources. To overcome these labour and material resources constraints, the state adopted a policy of harnessing the resources from non-agriculturist sections within Hadauti and attracting additional labour resources from outside. This policy gained momentum in the later half of the century. There was an increasing realisation that the peasant economy cannot bring about quantitative and qualitative change in agricultural production without adequate provisions of credit and state patronage. The periodic shifts to intensive agriculture and over burdening of the peasantry had created a class of dependent cultivators compelling many of them to work as halis for survival. There were growing number of non-peasant halas as well as halis. These developments have been examined in detail in the chapter on agrarian change.