

**THE ECONOMY OF THE HARYANA  
REGION DURING THE EIGHTEENTH  
CENTURY**

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**BHUPINDER KUMAR CHAUDHRY**

CENTRE FOR HISTORICAL STUDIES  
SCHOOL OF SOCIAL SCIENCES  
JAWAHARLAL NEHRU UNIVERSITY  
NEW DELHI - 110067  
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**DECLARATION**

It is certified that Dissertation entitled  
"THE ECONOMY OF THE HARYANA REGION DURING THE 18TH  
CENTURY" submitted by Mr. Bhupinder Kumar Chaudhry  
in fulfilment of eight credits out of the total  
requirements of twenty four credits for the award  
of the Degree of Master of Philosophy (M.Phil.) of  
the University, is, to the best of our knowledge,  
a bonafide and original work and may be placed  
before the examiners for evaluation.

  
Prof. HARBANS MUKHIA  
Supervisor

  
Prof. HARBANS MUKHIA  
Chairperson



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*Bhupinder Chaudhry*  
BHUPINDER KUMAR CHAUDHRY.

## ABBREVIATIONS

IHR	:	Indian Historical Review
IESHR	:	The Indian Economic and Social History Review
PIHC	:	Proceeding of Indian History Congress
R.S.A.B.	:	Rajasthan State Archives, Bikaner
H.S.	:	Historical Section
J.R.	:	Jaipur Records
D.D.H.	:	Daftar Diwan Hazuri

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CHAPTER I  
INTRODUCTION

In recent years regional studies have drawn the attention of research scholars considerably. It has been argued that a grass root level comparative study of different sub-regions is necessary to get a correct picture of the history of a country as a whole. Empirical research on problems relating to social and economic formations in India during the Mughal period has assumed quite a voluminous proportion in recent years, yet our understanding of the nature and pace of developmental process in Medieval Indian society is not all that clear. The major weakness is the neglect of studies of comparative socio-economic processes in different regions within India. Comparative studies of regional patterns are crucial for a better understanding of various branches of the economy, social organization and customary practices.

In spite of the welcome emphasis, the Haryana region has somehow escaped the attention of the scholars of Medieval Indian History. Let alone social and economic conditions, even political conditions prevailing in Haryana region during the Mughal period have not been properly researched on. An attempt has been made in

the present work to study the agrarian and the non-agrarian economies of the Haryana region, during the 18th century as an initial exploration towards a more comprehensive study of the socio-economic formation of the pre-modern Haryana.

Haryana region does not claim the same historical status as Bengal, Punjab or Gujarat. It has always been considered as a sub-region or a subpart in historical writings. The Haryana region is sandwiched between the desert of Rajasthan and Punjab. It is separated from the Doab region by the river Yamuna. Any development in the capital city of Delhi should have had immediate consequences for the people of Haryana. Firoz Tuglaq was the first Sultan who paid considerable attention to the Haryana region. He undertook many irrigational projects in that area. This could be due to the prolonged turmoil during the period under his predecessor. Firoz Tuglaq's efforts might have greatly added to the economic importance of the region.

Being one of the most fertile regions and also closest to the imperial capital (Delhi) Haryana had shouldered the responsibility of providing foodgrains and other material facilities to the nobility and the people living in Delhi. Its hinterland covered the

important trade routes. In the 14th century there was a route from Ghazni and Kabul to Multan which further led to Delhi via southern Punjab and Haryana. Ibn Batuta travelled from Ghazni to Delhi via Abohar, Sarsuti (Sirsa) and Hansi. In the seventeenth century two routes from Afghanistan joined at Lahore. From Lahore the routes ran across north-eastern Punjab and northern Haryana, before turning south at Ambala, it marched parallel to the Yamuna before reaching Delhi. Most of the towns of Haryana sprang on these routes.

Throughout the Sultanate and Mughal periods the Haryana region acquired a strategic significance from trade and defence point of view. All invaders from North-West Frontier passed through this region. Despite resistance they had to capture this region in order to reach Delhi.

In the Ain-i-Akbari Haryana region is shown to have comprised of seven Sarkars and sixty nine parganas. These Sarkars were those of Delhi, Hissar-Firoza Tijara Sehar, Sirhind, Narnaul, and Rewari. The major part of Haryana fell in Delhi and Agra Subas. The land of Haryana region can be divided into three belts on the basis of the nature of soil. They are Southern belt, comprising of the parganas of Palwal, Hodal, Faridabad, Gurgaon and



Rohtak, western belt comprising of the parganas of Hissar, Sirsa, Hansi, Fatiyahbad, Chalkalyana, and some parts of the Sarkars of Narnaul and Rewari, and North-eastern belt, that included the parganas of Karnal, Panipat, Ambala, Shahbad and Kaithal.

Chapter I deals with the geographical location and ecology of the region. Nature of soils, depth of ground-water and their relation with the different crops grown in the region have been discussed in detail. Besides this, sources of irrigation in the region, mainly wells, seasonal streams and reservoirs in different belts have been taken into account. Nature of sub-soil water in the southern belt and its effect on the agricultural production has also been discussed.

The first part of the Chapter II deals with the technology used in the agrarian structure of Haryana region during the 18th century. The use of different kinds of ploughs, hoes shades and other implements have been focussed upon. Use of various water lifting devices like "Dhenkli" "Chadas" and Persian wheel, as a factor responsible for the expansion of cash crops in particular, and agriculture in general, has been discussed.

The pattern of agricultural production in the region during the 18th century has been focussed upon in Chapter

II. Crops sown in all three belts of Haryana according to the nature of soil, depth of water, number of ploughing, watering, hoeing etc. have also been discussed. Besides this different categories of crops i.e. (1) cash crops, (2) cereal crops, (3) vegetable crops, (4) and pulses and percentage of area under different crops have been taken into account wherever evidence has permitted us to do so. A table showing the percentage of area cultivated under different crops and percentage of revenue yielded in rupee from them has been given for various years of Pargana Narnaul. Chapter II also deals with the upward movement of the prices of foodgrains in the region which exhibited considerable fluctuations. Prices of different crops have been compared with the prices given in the Ain-i-Akbari to show the proportional increase.

In chapter III a detailed study of non-agricultural production and trade in the Haryana region has been attempted. Various kinds of manufactures of the village as well as Qasba level have been surveyed. Village level artisans whose manufactures were for consumption within the village and which had made the village to some extent a self-sufficient unit formed an important component of the village society. The goods manufactured in various small industries of towns or Qasbas were sold within the Haryana region and they also served as commodities

of trade with other parts of the Empire.

Trade existed both in agricultural and non-agricultural products. Commodities of local trade as well as of external trade have been discussed. The communities involved in local and external trade have been focussed upon.

This study is largely based on original village level revenue records and records of British officials. The British officials carried out numerous settlements in the beginning of the nineteenth century. With the help of these Settlement Reports and Gazetteers, some significant inferences can be drawn for some crucial aspects of the economy of the region during the 18th century. Chapter I is based on the records of British officials. Mughal chronicles and village level records do not deal with the ecology of the region. Ecology of a region does not change very frequently, hence informations of British records for ecological conditions in Haryana region can be relevant to the period under study.

Most of the parganas of southern and western belt of Haryana were intermittently under the Jagir or Ijara of the Rajas of Amber, and some parganas of western belt like Sirsa, Hissar and Bhiwani etc. were held as Khalisa by the rulers of Bikaner, during the Mughal

period. These records have been catalogued and preserved in the Jaipur and Bikaner Historical Section of the Rajasthan State Archives at Bikaner. The only records pertaining to some parganas of Haryana region are Arsathas and Bahiats. The Arsathas pertain to the pargana of Narnaul and Chalkalyana, which were held by the Amber rulers, in Jagir. These documents suffer from certain limitations. First of all they do not provide us with any information about the parganas held by Imperial Jagirdars under their Jagirs. In Haryana, during the period of our study, extensive Jagirs were also held by other imperial Jagirdars in the region. But records pertaining to the parganas of their Jagir have not survived. Nonetheless, the records left by the Amber rulers enable us to establish certain broad trends that were taking place during our period of study. These trends are such that they could probably be said to reflect the general features of the entire Haryana region during this period.

Of the village level revenue records, the 'Arsatha' is of foremost importance in terms of supplying information about various aspects of the economy of the region. The Arsatha provides comprehensive information about the total income and expenditure of the pargana to which it belongs. Basic information like the total number of

villages under sub-assignments and the Amber Rajas Khalisa are given in the Arsathas. The Arsatha gives the estimated income, arrears, returns and expenditure under various heads in the pargana. The areas under the Zabti and Batai Jinsi crops for the entire pargana and also, separately, for each village have been given in the Arsatha. The amount of 'mal' and the heads and magnitude of various other cesses are also stated in the Arsathas. Mostly that part of the Arsatha which shows income of a pargana has been used in this study. The section stating expenditure of the pargana is useful for knowing the claims of the holders of superior rights in rural society.

Though the information supplied by the Arsatha is rich in terms of its utility, this record has its own limitations. First of all, we do not get Arsathas for all the parganas and for many years. Except for pargana Narnaul and Chalkalyana we do not get Arsathas for any other pargana. Even for these parganas we get Arsathas for stray years. Therefore, a long term price curve and cropping pattern cannot be worked out with the help of Arsathas. Despite these limitations, chapter II has been written on the basis of information contained in the Arsathas of Narnaul and Chalkalyana pargana.

Bahiyats on the other hand give a range of information. Bikaner rulers at that time did not have Arsathas for the

village level revenue records. Instead of Arsathas, Bahiats here provided information about total income and expenditure of the pargana. Total number of villages in the pargana, villages held by various heads as their zamindaris and various kinds of cesses are mentioned in the Bahiats. Besides this, Bahitas contain information regarding trade activities in the pargana. Various commodities passing in and out of the pargana are mentioned with the cesses levied on them. Since the parganas of the western belt of Haryana were held by the rulers of Bikaner intermittantly, not much information is available about these parganas. Some references have been given about the trade activities in the region.

Some British records of 19th century, like the Settlement Reports and the Gazetteers pertaining to various pargana have also been used in this dissertation. These records give us details of physical relief of the Haryana region and a detailed description of the crop pattern and agricultural produce. They also deal with various heads of the village society like chief headman of the village, Patwari, Kanoongo etc.

All these records provide rich information about the social and economic conditions prevailing during the 18th century of Haryana region. Therefore this study has been largely based on them. Although

informations related to the parganas held by other imperial Jagirdars are not available, this study still perhaps reflects the picture of the whole of Haryana in view of the fact that a large number of parganas were under the control of the Amber and Bikaner rulers in various capacities, whose records have fortunately survived.

## CHAPTER II

### ECOLOGICAL STRUCTURE OF HARYANA REGION

The Haryana region in Mughal period formed a part of Delhi and Agra Subas. About its geographical location Abul Fazl has written that on the east of Delhi Suba, lies the imperial capital Agra while on the north east it merges with Khairabad towards the south of Oudh. To the north are Himalayan mountains, on the south the suba of Agra and Ajmer and on the west Ludhiana.<sup>1</sup>

The term "Regional Structure" as used in the context of Haryana refers to the spatial arrangement of various attributes like physical (Relief soils depth of water etc.).

Haryana, situated in the northern part of India, lies between 27°35' to 35°56' north latitude and 74°30' to 70°36' east longitude. Situated within the Indo Gangetic plains and the Himalayan foothills, it covers an area of 44056 sq. kms. Presently it is bounded by Himachal Pradesh and Punjab on the north Rajasthan in the west and south and Uttar Pradesh in the east, where river Yamuna forms the physical boundary. The plains of Haryana are formed by the deposits from the rivers.

Haryana can easily be differentiated from the surrounding regions. It is separated from upper Ganga

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1. Abul Fazl, Ain-i-Akbari, vol.II, Tr. by Col. H.S. Jarrett, Third Edition, 1978, p.283.



plains by river Yamuna. This river acts like a barrier between these two regions. Upper Ganga plain is situated on the eastern and Haryana on the western side of this river. Moreover, Haryana is quite different from upper Ganga plain which is a humid region, while Haryana is a relatively dry one. Again, in upper Ganga plain the alluvial deposition is much greater than in Haryana. It is situated on the great Indian water divide, separating the Indus system from Gangetic drainage system; consequently it does not have any river of consequence.

Roughly Ghaggar makes the northern boundary of Haryana region and separates it from Punjab. Physically, Punjab and Haryana cannot be separated as both are the parts of the Indo Gangetic plain, but culturally we can attempt the differentiation as the Haryanvi dialect spoken in Haryana is a branch of Hindi while Punjab, a language spoken in Punjab, has Gurmukhi script.

#### PHYSICAL RELIEF:

Looking at the physiography, it can be said that most of the region is a broad level plain. In the north-east Siwalik foothills represent a high elevated area where in some of its parts, the height is above 600 metres. Again, in its southern part Aravalli range, connected to Delhi system, also disrupts the region.

Some parts of Mahendergarh and Gurgaon are covered by the rocky outcrops of the Aravalli hills.

However, on the basis of its relief characteristics the Haryana region can be divided into three sub regions.

- 1) North Eastern plain region
- 2) Western Durg region
- 3) Southern Hilly region. (Map-1)

1) North Eastern Region:

The north eastern plain extended from the west of Jamuna to the land representing the absence of sand dunes. Within this, some of the areas were more fertile consisting of narrow stripes of low lying flood plains. One part of this belt consisted of the foothills of Siwaliks. In this region "Chos" (Hill torrents) were very important and created the problem of soil erosion. These "chos" were nothing but seasonal streams.<sup>2</sup> The northern part of this belt was almost an alluvial plain sloping very gently towards the south-west, broken at short intervals by the beds of the mountain torrents. In the southern part of this region, from ten to nineteen kilometres from Yamuna, a watershed was located. Now a days it is not easily perceptible. To the east of the watershed

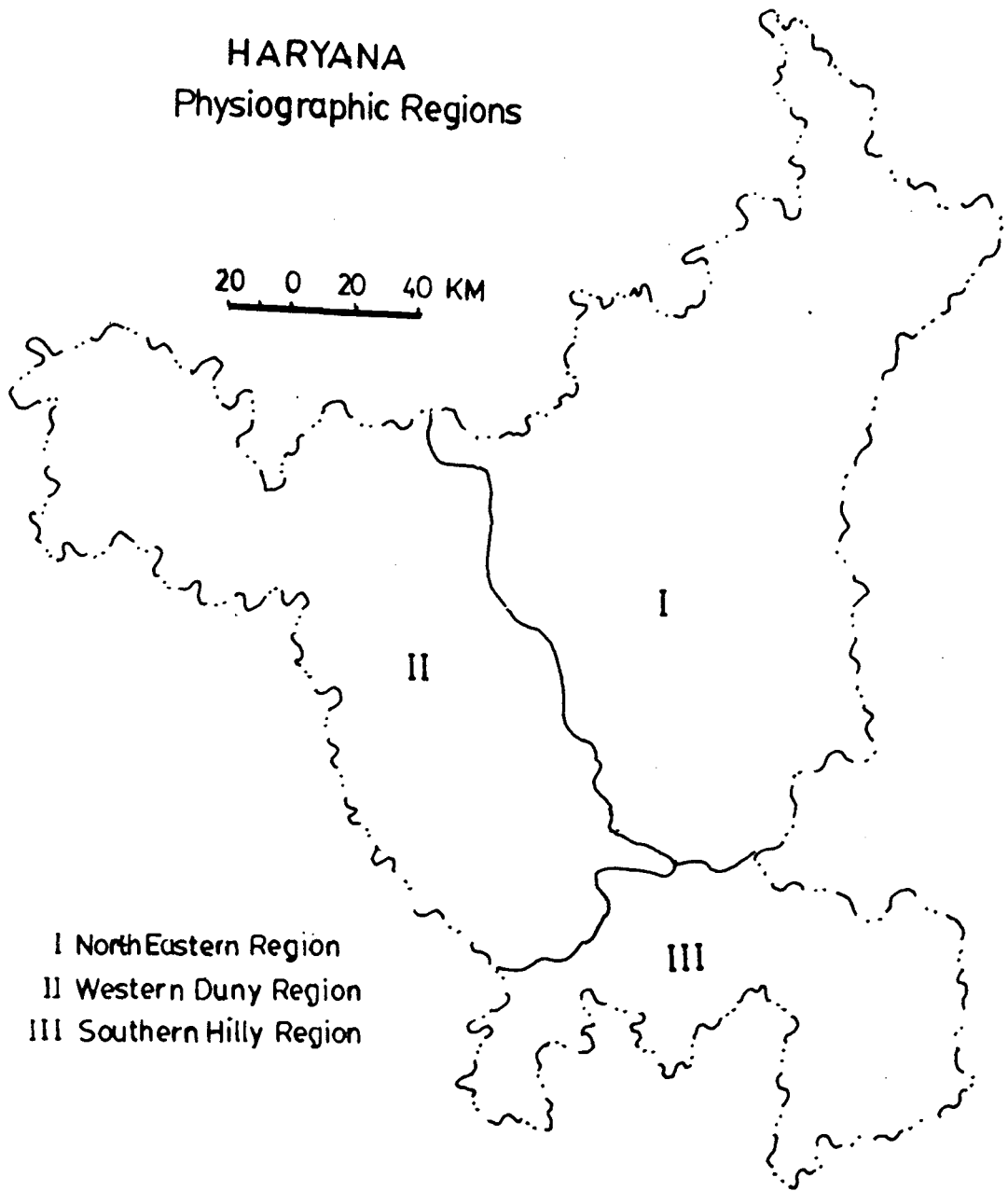
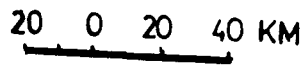
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2. R.L. Singh, India, A Regional Geography, Silver Jubilee Publication - NCSI, Varanasi, p.85.

# HARYANA

## Physiographic Regions

20 0 20 40 KM



- I North Eastern Region
- II Western Dunes Region
- III Southern Hilly Region

was the riverine tract of Yamuna called "Khadar".<sup>3</sup> It was a lowlying area of new alluvium and made the western limit of the insinuations of the Yamuna. The area was prone to floods. To the west of the watershed in Bangar stretches, was a high table land called the "Nardak". It was composed of old alluvium.<sup>4</sup>

## 2) Western Dunt Region:

It was covered with sand dunes which made the region arid in comparison to the east. This region covering a large part of Sarkar of Hissar-Firoza showed a higher degree of aridity.<sup>5</sup> This was characterised by the presence of sand dunes of various shapes. These dunes were sometimes quite high and extended to miles in length. The alluvium was covered by sand.<sup>6</sup> The only useful part for cultivation and production in this region was the locales open to artificial irrigation. These places were locally called "Tals".<sup>7</sup>

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3. D.C.J. Ibbetson, Report on the Revision of Settlement of the Punjab Tahsil and Karnal Pargana of the Karnal Distt., 1872-80, Allahabad Pioneer Press, p.158.

4. Ibid.

5. C.M. King, Final Report on the Second Revision of of the Regular Settlement of the Sirsa and Fazilka Tahsil, 1900-1904, Civil and Military Gazetteer Press, p.1.

6. Ibid.

7. Ibid.

### 3) Southern Hilly Region:

In this region, a number of detached hills appeared here and there and they were parts of Delhi system of the Aravalli range. The Aravalli range was a narrow ridge stretching into Haryana for 90 kms in the north east to south west direction upto Delhi.<sup>8</sup> It covered the southern parts of Mahendergarh and the adjoining area of Gurgaon pargana.

### Soils:

Indian soils have been classified into (1) Indo Gangetic alluvium, (2) The black cotton or regar soil, (3) the red soil and (4) the lateritic soil.<sup>9</sup> The Indo-Gangetic alluvium was by far the largest and the most important of all the soil groups, from the point of view of agricultural production. The major part of Haryana fell into this soil group. Apart from Alluvium, Haryana had some other varieties of soils, which were closely related to geological formation and surface deposits. The sandy soils found in the western parts had more alkalinity, while the loamy soils were saline and alkaline.<sup>10</sup>

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8. Techno-Economic Survey of Haryana, National Council of Applied Economic Research, 1970, p.2.

9. M.S. Randhawa, A History of Agriculture in India, vol.I, ICAR, p.12.

10. Ibid.

However both were poor in humus because of the absence of natural vegetation cover as a result of dry conditions. Although as stated above, alluvium comprised the major part of the Haryana soil, its three sub-regions had different types of soils.

Soils of the North Eastern Belt:

Agriculturally, the most important soils which occupy extensive tracts of land were found in this region. These soils were derived mainly from the debris brought down from the Himalayas by Yamuna. Geographically, the alluvium was divided into newer and older alluvium. The former (known as Khadar) varied mostly from clayey to sandy loam in texture and generally was acidic in reaction. The latter (known as Bangar) was more clayey in composition, generally of dark colour and full of pebbles.

Pargana of Karnal:

The whole formation of Karnal pargana was alluvial, and blue micaceous sand was found everywhere of moderate depths.<sup>11</sup> Kankar was found generally near the surface.<sup>12</sup> In Karnal pargana there was no real clay and the soil varied from stiff loam to pure sand. The stiffest loam

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11. D.C.J. Ibbetson, Karnal Distt., op. cit., p.2.

12. Ibid.

was found in the hallow and drainage lines where the action of the water had washed out the sandy particles. It was locally known as "Dhakar"<sup>13</sup> with plenty of water Dhakar land produced rice and grain. To sow rice Dhakar land was ploughed two to three times and for grains one to four times.<sup>14</sup>

The sandiest soil was known as "Bhur".<sup>15</sup> It included all soils that did not form clods under the plough. Intermediate soils were categorised as "Rausl" and varied in quality between two extremes.<sup>16</sup> "Bhur" was by far the least valuable soil. The yield of this land was poor and in rains, the soils became so soft that it could not sustain the plants in an upright position. At the same time it was cool and retained moisture for a long time. "Dhakar" was extremely stiff and hard to work, and would yield nothing without water. Sugarcane was sown in these varieties of land. Sowing of sugarcane in "Dhakar" tract needed ploughing for 10 to 15 times and watering after sowing four to five times.<sup>17</sup>

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13. Ibid.

14. Ibid., p.158.

15. Ibid., p.2.

16. Ibid.

17. Ibid., pp.178-79.

Pargana of Thanesar:

Land of Kaithal in Thanesar pargana was divided into "Bangar", "Khadar" and "Dabun".<sup>18</sup> "Bangar" or dry land prevailed in the whole of the pargana south of Kaithal Khadar by chiefly to the north of Kaithal.<sup>19</sup> Koolara was also found in Thanesure, which was a light and moist soil with water near the surface. Cotton was grown in this region and land required ploughing four to six times. Since water in this region was near the surface it required watering only once at the most.<sup>20</sup>

Rowslee was a light and Dhakar was alluvial soil formed by over flowing deposits of water in low ground. The soil deposited by the overflowing of Ghaggar was called "Nabe". Eastern part of the pargana of Thanesur was divided into Khadar and Bangar land and it was the dividing ridge between the valley of Jamuna and the low lands.

Pargana of Ambala:

Ambala tract was divided into two circles on the basis of soils. The loam variety of soil gave rise to

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18. Edward Cate, Extracts from Reports of the Settlement of the Pargana Formerly Comprised in the Thanesure Distt. 1878-79, Punjab Printing Company, Lahore, p. 25.

19. Ibid.

20. D.C.J. Ibbetson, Karnal Distt., op. cit., p. 178-79.



Seoti circle in Ambala, Naraingarh and Kharar, and clay or Dhakar soil to "Dhaia" circle of Rupar.<sup>21</sup> The soils in Rupar, Kharar, Naraingarh and Jagadhri were good alluvial loam.<sup>22</sup> The southern part of the pargana including the greater part of Pipli and a large part of Ambala and some parts of Naraingarh and Jagadhri was much poorer in quality.<sup>23</sup> Pipli contained "Dhakar" which required a good quantity of water for crops.

Pargana of Ambala was a level plain and a greater part of it had however been gradually covered with light alluvial loam brought down and deposited by large hill streams.<sup>24</sup> This variety of land produced enough rice in times of abundant rainfall or in artificially irrigated areas. Before sowing rice the land was to be ploughed two to three times. Sugarcane was another important crop of this tract.<sup>25</sup> In other parts of the pargana, the surface loam was thinner and much poorer in quality and crops were liable to more frequent failure.<sup>26</sup> The

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21. A. Kinsington, Final Settlement Report of the Ambala Distt 1893, Civil and Military Gazetteer Press, p.3.

22. Ibid., p.1.

23. Ibid.

24. Ibid., p.3.

25. D.C.J. Ibbetson, Karnal Distt, op. cit., pp.178-79.

26. A. Kinsington, Ambala Distt., op. cit., pp.3-4.

surface of plain portion of Naraingarh was uneven. It had a hilly range known as "Marni". Kharar and Rupar had a strip of hilly or broken ground. Below this there was a large tract of level loam including a vast tract of fertile soil.

Western Dunny Belt:

Some parts of the western belt of Haryana were affected by the desert conditions.<sup>27</sup> This part was covered under a mantle of blown sand and was dominated by conditions which inhibit soil growth. Except in areas like some parts of Hissar and Fathiabad pargana, where nature of soil was light and stiff loamy, in the major part of this belt the soil existed under arid and semi-arid conditions.<sup>28</sup> These soils contained varying percentage of calcium carbonate and was poor in organic matter, the limiting factor being mainly water. The soil could be reclaimed if proper facilities of irrigation were available. Due to non-availability of adequate water supply, very few crops were grown among which jowar and bajra<sup>29</sup> were predominant.

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27. C.M. King, Sirsa and Fazilka Tahsil, op. cit., p.1.

28. C.A.H. Townsend, The Third Revised Settlement of the Hissar Distt., 1906-10, p.1.

29. Ibid.

Pargana of Hissar:

Pargana Hissar was divided into three tracts on the basis of its soils - (1) Bagar, (2) Hariana, and (3) Nalee tract.<sup>30</sup> Bagar was a regional sand hill. Hariana was more or less level plain of loam, though not devoid of occasional sand hills. The soil of Hariana tract was better than that of Bagar. In the Nalee tract the soil was generally hard clay.<sup>31</sup> There was no Bagar circle in Hansi pargana, the soil was almost throughout level sandy loam.<sup>32</sup> In pargana Fatahabad, Bagar circle was superior to the Bagar circle of Bhiwani and it used to grow Rabi crops, but it was by no means significant.<sup>33</sup> Due to the light nature of the land just a few ploughings were needed before sowing.

Bagar circle of soil could again be divided into "Behal Siwani Bagar" and "Amrain Bagar". Behal Siwani Bagar was a poor quality land and there drinking water was obtained with great difficulty, since the wells used to be deep, scarce and the water was brackish.<sup>34</sup>

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30. Ibid.

31. Ibid.

32. Ibid., p.18.

33. Ibid., p.25.

34. Ibid., p.15.



Amrain Bagar was better than the Behal Siwani Bagar, but only a little better.

Pargana of Sirsa:

The land of pargana Sirsa was divided into four categories: (1) Bagar circle, (2) Nalee circle, (3) Rohi circle and (4) Utar circle.<sup>35</sup> The land around the old and present Ghaggar had hard clay soil called "Sotar Barani".<sup>36</sup> A strip of land which lay beside the old bank of Sutlej had in its soil a large mixture of sand and was poor in crop yield. It was called "Utar circle".<sup>37</sup> Land strip from old bank of Sutlej to the borders of Bikaner had soil of uniform light loam broken in places by small hillocks of sand. This strip was called "Rohi circle".<sup>38</sup>

The south-eastern tract of pargana Sirsa was a sandy and almost treeless tract which gave place suddenly to a narrow valley of rich alluvial clay. This belt was called "Nalee circle". Then there was a sandy loam bounded on the north-west by the "danda" or old bank of Sutlej. To this succeeded a comparatively narrow shelf

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35. C.M. King, Sirsa Distt., op. cit., p.4.

36. Ibid., p.19.

37. Ibid., p.20.

38. Ibid., p.23.

of sandy and inferior soil known as "Bagar circle". The main crops of this tract were Bajara and Moth in Kharif. Rabi crops were not known to this region, possibly, because the rainfall was scarce and water was available through artificial means<sup>39</sup> in meagre quantity.

Southern belt:

The soils of the southern belt of Haryana were highly deficient in crop-yield. The sub-soil water in this tract was mostly brackish. The loam of this tract was divided into hard, light and sandy locally known as "Dhakar", "Rousli" and "Bhur".<sup>40</sup> The "Dhakar" being hard requiring a lot of ploughing... and good rain. While Rousli needed just a little ploughing and readily retained moisture. Rously was the best soil for <sup>rainfed</sup> cultivation.<sup>41</sup> Bhur was a poor land, but it did not require much ploughing as the sub-soil retained whatever moisture it received.<sup>42</sup> At many places the soil was bedded with lime, kankar and stone.

Pargana Gurgaon:

The nature of land in the northern and western parts of the pargana of Gurgaon and Rewari was generally

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39. Ibid., p.28.

40. Punjab Govt., Punjab Distt. Gazetteer, Rohtak Distt., vol.III - 1910, Civil and Military Gazetteer Press, p.99.

41. Ibid.

42. Ibid.

sandy.<sup>43</sup> In some parts of this region the soil was better, approaching a light loam in its character. Some parts presented a desolate appearance with high hillocks of sand. To the south east and south west of Gurgaon low-lying land of better character was found.<sup>44</sup> In the north western part of Gurgaon pargana the main crop was Barley which was sometimes mixed with gram. For Barley, the land was to be ploughed two to four times before sowing. Since it was a crop, dependent on rainfall, no irrigation was required.<sup>45</sup>

In Nuh the prevailing soil was clay. But to the north-east of Nuh and north-west of Palwal, the country was sandy. In Firozpur the land had heavy black soil.<sup>46</sup> Sadhrana in Gurgaon, Marora, Kerti-Kankar, Hasanpur, Sohna, and Ulahta in Nuh, Somand-Khera and Umera in Firozpur were the villages in which Kankar was found.<sup>47</sup>

Pargana Rohtak:

The main soil of this tract was a good light coloured alluvial loom, which with sufficient moisture yielded

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43. F.C. Chonning, Land Revenue Settlement of the Gurgaon Distt, 1910, Central Jail Press, p.5.

44. Ibid.

45. Ibid., p.65.

46. Ibid., p.5.

47. Ibid., p.15.

splendid crops in return for a little labour and was termed "Rausli". The light sand was called "Bhur". The clay soils were distinguished according to their tenacity by the names "Dhakar" and "Matiyar" the former splitting into fissures after irrigation.<sup>48</sup>

Different soils produced different crops according to the quality and quantity of water available through rainfall and other artificial means, like wells, reservoirs etc. The only rainfed soil in this tract, which had been specially distinguished was the poor light Bhur while the rest had been classed together as "Barani".

#### Underground Water:

Apart from the rainfall, among the artificial means wells were the major source of irrigation throughout the Haryana region. Pucca as well as Kutchha wells existed for this purpose.<sup>49</sup> Some of the areas of this region were also irrigated by Jheels, canals and hill torrents. The method of drawing water from the well depended on the depth of the well.

#### Pargana Sirsa:

In the Pargana of Sirsa in the western belt of Haryana, except in some areas, irrigation from wells

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48. Punjab Govt., Rohtak Distt., op. cit., p.99.

49. F.C. Channing, Gurgaon Distt., op. cit., p.8.

was not possible owing to the great depth of subsoil water.<sup>50</sup> Within the area flooded by Ghaggar, a few wells, were used for irrigational purpose. The depth of water in these wells varied from 15 to 20 feet and water was always sweet.<sup>51</sup> In the north of Sirsa towards the Patiala boundary, there existed some well irrigation. Near the town of Sirsa some solid masonry wells were found<sup>52</sup> which must have been used for irrigational purposes. Depth of those wells was great. A little of well irrigation also existed in Nalee circle. In many cases in pargana Sirsa the sub-soil water was brackish and useless for irrigation and domestic use.<sup>53</sup> The only water lifting device used in this pargana was the "Charas".<sup>54</sup> Lifting water with "Charas" was a laborious and filthy exercise. At the well edge, they set up a fork of wood having a roller adjusted between the forks. The bucket was tied to a rope which went over the roller and other side of the rope was tied to a bullock. One person drives the bullock while another emptied the bucket.

There is evidence to show that at one time when the surface flow crossing the pargana was greater, the

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50. C.M. King, Sirsa and Fazilka Tahsil, op. cit., p.31.

51. Ibid.

52. Ibid.

53. Ibid., p.1.

54. Ibid., p.3.



depth of water was less than it was in the nineteenth century or now. There were numerous old wells around Sirsa and elsewhere in Sottar valley whose water level was near the surface.<sup>55</sup> An old well had been found in the middle of this tract where water in second half of the nineteenth century was at the depth of 220 ft. which shows that when it was constructed water would have been obtained at less than 150 ft.<sup>56</sup> In all the villages within the reach of the percolation from the Sutlej and Ghaggar, the water of the wells was sweet and potable.<sup>57</sup> In sandy track south of Ghaggar the well water was sweet in 31 villages, brackish in 6 and salty in 10 villages.<sup>58</sup>

Pargana Hissar:

In the Bagar tract of pargana Hissar the depth of water was low and it was not sweet.<sup>59</sup> There were very few irrigational works in eastern part of the Haryana belt of Hissar. In the Jat villages of Nalee tract water was near the surface and it was possible here to extend well irrigation.<sup>60</sup> In the western belt of Haryana where

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55. Ibid., p.32.

56. J. Wilson, Final Report on the Revision of Settlement of the Sirsa Distt in Punjab, 1879-83, Calcutta Central Press, p.8.

57. Ibid.

58. C.M. King, Sirsa and Fazilka Tahsil, op. cit., p.28.

59. C.A.H. Townsend, Hissar Distt, op. cit., p.1.

60. Ibid., p.2.

the water level was low and the soil was sandy, the principle crops were the bulrush millet (Bajra) in the Kharif harvest and a mixture of gram with Barley known as "Bejhar" in the Rabi harvest. Throughout the sandy belt where water was available easily, Kharif cultivation was more important than Rabi, since the rainfall was favourable to the former.<sup>61</sup>

Pargana Gurgaon:

Apart from irrigation in some of the areas by Jhils, wells were the the major source of irrigation. In some of the areas well irrigation due to salinity or depth of water was practically impossible.<sup>62</sup> In pargana Rewari and some parts of Gurgaon well irrigated area was comparatively large. Pucca as well as Kutcha wells existed in this region.<sup>63</sup> In Chak Chiknot of Firozpur, the water was invariably saline.<sup>64</sup> In some wells of Rewari, water found was known as "Matwala" or hard. Depth of water varied from 10 feet to 120 feet.<sup>65</sup> In Nuh depth of water was great. The device to draw water from wells in this region was either "Dhenkli" or "Charas". Dhenkli was used in the areas where the water level was near the surface and Charas in the areas of great water depth.

61. Ibid., p.3.

62. F.C. Channing, Gurgaon Distt., op. cit., p.7.

63. Ibid., p.8.

64. Ibid.

65. Ibid., p.7.

Besides, barley and gram, during the 17th century, indigo was also cultivated in Nuh, Firozpur and pargana Gurgaon. The brackish nature of water was suitable for indigo cultivation.

Pargana Rohtak:

Depth of water was greater in this pargana. It was the least in the south east of the Jhajjar where in the old days of constant flood it was said that a man might drink from the lip of the well. In the north east of the pargana depth of water fell to 31 feet, in the centre to 30 feet and in the west to 49 feet.<sup>66</sup> The fact that in the north of this pargana depth of water varied from 51 to 106 feet<sup>67</sup> indicates that well irrigation could be a little more advanced in those parts. In the eastern and the western parts of this pargana water level was near the surface.<sup>68</sup> In "Dadri" and Jhajjar circles water was not more than 15 to 30 feet.<sup>69</sup> In Mehm area water level was 106 feet, 50 feet in the Bhur circle of Jhajjar and the same around Mandauthi near Delhi border.<sup>70</sup> In the old

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66. Punjab Govt., Rohtak Distt, op. cit., pp.124-25.

67. Ibid.

68. Ibid.

69. Ibid.

70. Ibid.

canal tract of the north east of the Pargana water was near the surface and often sweet. An ordinary masonry well irrigated about 8 acres and an unlined well 6 acres of land.<sup>71</sup> In the canal irrigated areas of this pargana cotton was the main crop.<sup>72</sup>

Throughout the pargana the land contained salt,<sup>73</sup> but it was the presence of canals which kept the well water sweet. The sweet well could soon turn brackish and even salty, but for the canals.

North Eastern belt:

Water level in pargana Karnal was much affected by the presence of canal and rivulets. Near the rivulets the level of underground water was only two or three feet and seldom more than 15 feet. In the arid part of the tract water was at a depth of around 90 feet.<sup>74</sup> Depth of water in Khadar land was not much as compared to the Nardak land. In Khadar land depth of water was not more than 25 to 30 feet from the surface.<sup>75</sup>

In pargana Thanesar, in the north towards Kaithal water level was near the surface.<sup>76</sup> Irrigation from well

71. Ibid., p.125.

72. Ibid., p.64.

73. Ibid., p.99.

74. D.C.J. Ibbetson, Karnal Distt., op. cit., p.2.

75. Ibid.

76. Edward Cakes, Thanesar Distt., op. cit., p.25.

was confined to the northern part chiefly and near Thanesur, in Bangar parganas, water was too deep for irrigation. In the western Bangar land, water was at a great distance from the surface, but in the eastern Bangar, the reverse was the case. In proper Thanesur and Shahbad water was around 30 feet from the surface.<sup>77</sup> In the North-eastern belt of Haryana where the water level was high and the soil was clayey and loamy, rice sugarcane, wheat, jowar and cotton were the major crops. With plenty of water "Dhakar" land produced rice and gram, siff loam produced sugarcane and cotton and jowar was grown in medium loam.<sup>78</sup>

Apart from the used wells in the pargana Gurgaon, some water was diverted from "Chandeni" Jhil and some from the Firozpur valley for irrigational purpose.<sup>79</sup> The tanks called "Johars" formed a special feature of the pargana Rohtak. Around the large villages as many as seven or eight tanks were found; some were in exceedingly fine condition, especially those east of the Sampla and those at Kanhaur, Seman, Bainsi and Dighal. Many were enlarged and shaped regularly for being used in the famine days.

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77. Ibid., p.68.

78. A. Kinsington, Ambala Distt., op. cit., p.5.

79. F.C. Channing, Gurgaon Distt., op. cit., p.11.

Canals were also used for irrigational purpose. By 1568 A.D., the canal constructed by Firoz Shah in 14th century from Jamuna river to Hissar had fallen into disuse. It was rennovated by Akbar, the objective being, in this case, the irrigation of the pargana Hissar which the Emperor was bestowing upon his son. Sixty years later further remodelling became necessary and in 1626 this was carried out under the direction of Ali Mardan Khan, Shah Jhan's great engineer. In connection with it a new branch was constructed to supply water to the fountains of the Imperial palace, and to adorn the streets of the rising fort which the Emperor was erecting at Delhi.

Tamurlane who invaded India in 1398 A.D., however, made no mention of this canal. It probably ceased to flow by that time. It was in full flow at the time of Nadir Shah's invasion in 1739 A.D., but in 1805 A.D. when the territory came under the British rule it had again silted up.

In ancient India, the region of Haryana was said to have been irrigated by nine rivers. The names of these nine rivers are (1) Saraswati, (2) Vaitarini, (3) Apaga or Aughvati, (4) Mandakini Ganga, (5) Madhusrva, (6) Ansumati, (7) Kausiki, (8) Drashtwati and (9) Hiranyavati. Of these nine rivers Saraswati and Drashtwati were

important. The Apaga or Aughvati was a branch of Chitang which separated from the main stream, a few miles to the west of Ladwa and flowed past Palwal to Pohnawa, to be lost there in the sands. Its whole length was 25 miles. The Kausiki was a branch of Rakshi. During the historical times Ghaggar was an important and independent perennial river. But during the decline of Mughal Empire it became non-perennial.

Yamuna discharged into the western sea in the early historic times through the present neglected bed of the Saraswati. More recently R.L. Raiker,<sup>80</sup> an Italian hydrologist has argued on the basis of his investigations in the dry bed of Saraswati near Hanumangarh in north of Rajasthan, that the Yamuna had flowed through this dried up course upto the Indus in sub-recent times and it is assumed to have diverged westward near Indri in the north of Karnal.

River Yamuna which made eastern boundary of Haryana was the only perennial river. The Dangri, Chautang, Markanda, Kasauti, Dohan Sahibi and Indori were the seasonal streams. (See Map No.1.2)

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80. Raikes, R.L., Kalibangan: Death from Natural Causes, Antiquity, vol.XCII, No.168, December, 1968, pp.286-91.

Yamuna: The river Yamuna, the only big and perennial stream of the Haryana region used to flow, and still does all along its eastern boundary. It provided irrigation for large tracts and was responsible for high level of sub-soil water in the eastern belt.

Ghaggar: The Ghaggar rose in the outer Himalayan range between the Yamuna and the Sutlej. It entered the plain as a rapid and variable mountain torrent passing near Ambala, after a south-westerly course of about 110 kms chiefly through the Sangrur pargana of Punjab, where it was joined by the limited streams of the Saraswati Markanda and other numerous hill torrents.

Saraswati: It was an important river in ancient days, but during the Mughal period it became a small rivulet. Its flood rarely extended to any distance and its banks were usually high and steep.

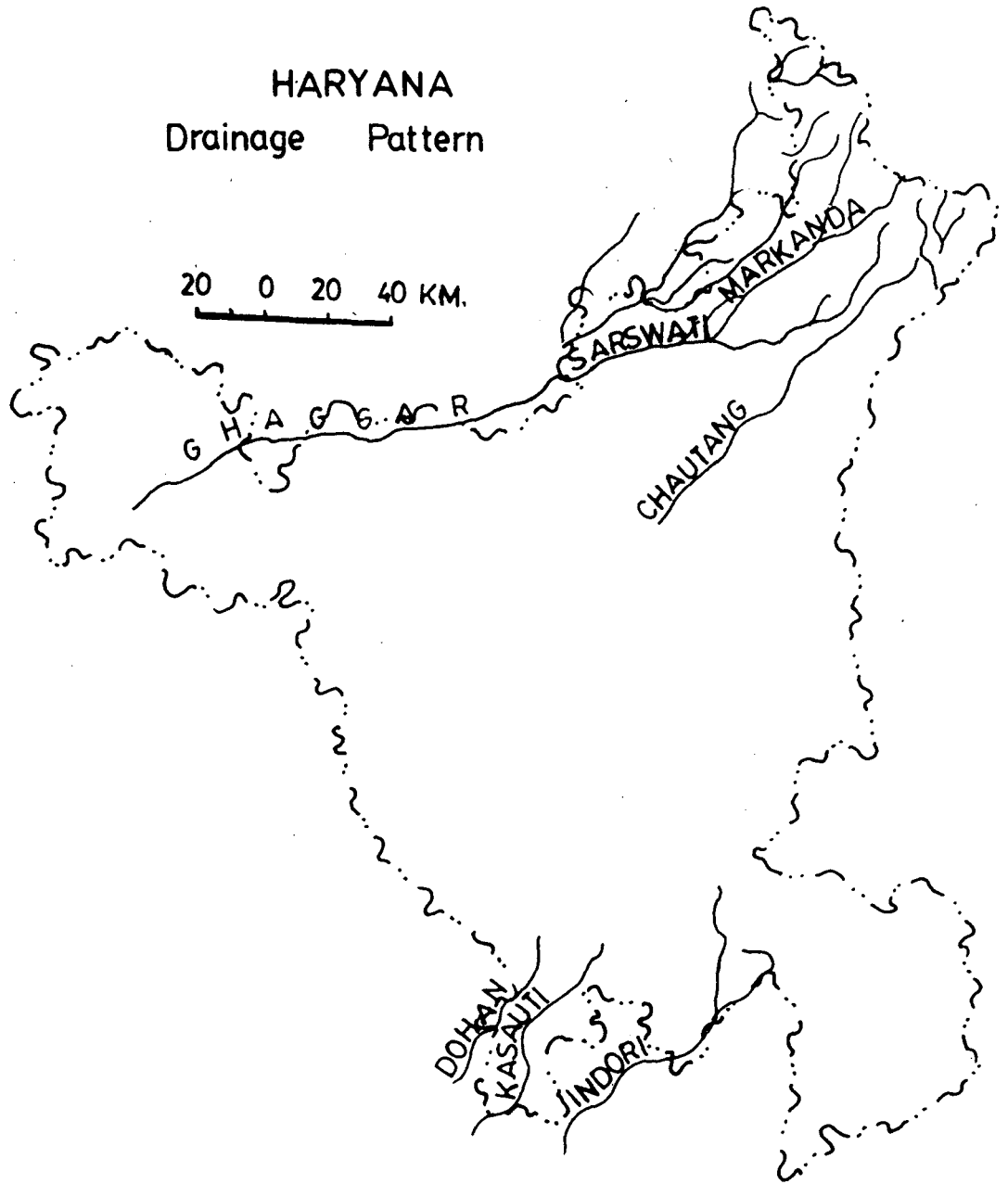
Markanda: It was a seasonal stream and took its origin in the lower Siwalik hills. After flowing in the south-western direction for about 48 kms it joined Ghaggar river.

Sahibi: The Sahibi originated in the Mewat hills in the southern belt of Haryana near Mamoharpur and Shajahanpur entered Rewari above Kotqasim and flew through Jhajjar pargana and finally entered in the pargana Rohtak.



# HARYANA Drainage Pattern

20 0 20 40 KM.



In pargana Rohtak it was divided into two branches and reunited near Sondhi, Yakubpur and Fatehpur. It turned to the North again and after going a few kilometres through this pargana it flowed into Delhi territory where it fell into Yamuna.

Indori: It originated near the old city of Indore perched on the Mewat hills, west of the town of Nuh of pargana Gurgaon. The main branch of this river went off north-west and joined the Sahibi at the southern boundary of pargana Rewari. Except Sahibi and Indori there were two more rivulets in southern Haryana named "Dohan" and "Kasauti" but they were not so important.

All these hill torrents and rivulets did not irrigate any significant area. Most of the rivulets covered the parts of north eastern belt where water was not a scarcity for the crops. Water in this belt was near the surface, rainfall was also frequent and heavy. These hill torrents and seasonal streams could not provide relief to the dry lands of western and southern belts.

### CHAPTER III

#### AGRICULTURAL TECHNOLOGY AND CROP PATTERN

Technology plays an important role in the agricultural production process of a country. However, it is essential to study the nature of agricultural implements to understand the nature of the then agricultural structure. First part of this chapter deals with the technology used in the agrarian structure of Haryana region during the eighteenth century.

Technology always has more or less direct impact on the process of production. Irfan Habib in one of his papers "The technology and Economy of Mughal India" has set aside the earlier assumption that before eighteenth century the industrial technology of India lacked mechanical sophistication whatsoever and was incapable of adopting any innovations; he has also questioned the notion that ascribes to climate and Geography a very large negative influence on Indian technological development. On the contrary he argues that large scale technological developments took place which had an immense effect on agricultural development.

The most important implement of the cultivators was, of course, the plough (Hal or Munna). The two little words refer primarily to the piece of wood shaped

like a boot into the top of which was placed the "Phali" (Hal) and to the bottom of which a small piece of wood (Chou) was fastened, and the latter carried the "Phali" or iron ploughshare. It was used in the Hissar pargana of the western belt where nature of soil was sandy. The "Hal" was perhaps the most important part of the plough. The adaptability of the plough for ploughing various kinds of soils depended on its weight and size. Another implement used with the plough was known as "por" or "Nali" i.e. a seed drill made of a strip of bamboo and held together by a long narrow piece of leather (Badi).<sup>1</sup>

The plough used in pargana Karnal was different from the plough of western belt. It consisted of a wooden body with the bottom cut off horizontally and the nose cut off nearly vertically.<sup>2</sup> It was drawn by a beam (Hali) passing through a mortice in the middle of the body which was fastened to a yoke (Jua). The share (Phali) passed through a mortice through bottom and nose of the plough. The share was of two different shapes. The "Panyari" was a broad cutting blade of wood passed

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1. C.M. King, Punjab Distt. Gazetteers, vol.II, Hissar Distt. Part-A, Civil & Military Gazetteer Press, pp.163-64.
  2. D.C.J. Ibbetson, Report on the Revision of Settlement of the Panipat and Karnal pargana of the Karnal Distt. 1872-80, Allahabad Pioneer Press, p.174.

through the same mortice with the share and was used for stiff soil. The "Patha" was a thick, round conical shaped continuation of the nose let into a notch in the latter and secured by the shares which passed through it. It was used for the light Khadir soil.<sup>3</sup>

"Panyari" plough was a large heavy plough drawn by large bullocks and used only in some parts of Karnal pargana and on the Rohtak border,<sup>4</sup> where soil was stiff and several ploughing were needed before sowing the crops. In Gohana, the light plough called "Nug" or "Nari" was used in contradiction to the ordinary "Baithal" or "Modh Hal"<sup>5</sup> while in the heavier soil of Jhajjar "Dhar" a stronger plough was some times seen.<sup>6</sup> Besides the plough some other implements were also in use during the 18th century in Haryana.

#### Harrow:

Different kinds of harrows were used in India during the medieval period. John Capper does speak of harrow consisting of a mere board pierced with rough pegs, or

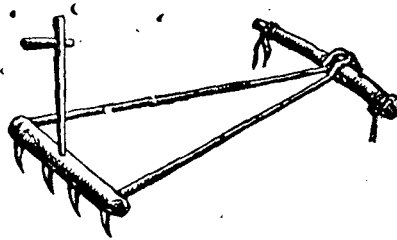
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3. Ibid., p.152.

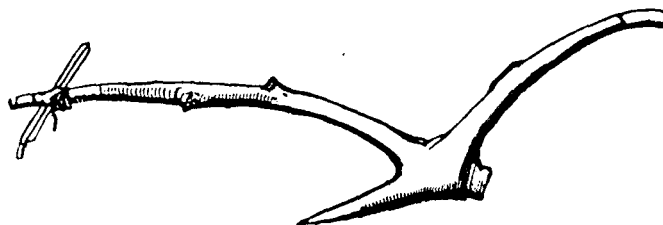
4. Ibid., p.152.

5. Punjab Govt., Punjab Distt. Gazetteer, vol. III A, Rohtak Distt., 1910, Civil and Military Gazetteer Press, p.107.

6. Ibid.



NATIVE HARROW.



NATIVE PLOUGH.



GRASS-CUTTER'S HOE.



REAPING-HOOK.



NATIVE SPUD.



GRASS CUTTER.

Source 1- Clem-G. Parsons, An Administrative Handbook of Ambala Distt; 1898, Civil and Military Gazette Press.

more frequently of the bough of a tree, on which one or two children will be seated to give it the necessary pressure.<sup>7</sup> On the other hand the Tuhfat-i-Punjab mentions an instrument named "Dandal" comprising a very heavy plank with teeth of one end, drawn by four oxens and pressed by two men. This was used for paddy cultivation and appears to be a highly sophisticated harrow.<sup>8</sup>

Phaura:

The 'Phaura' in Haryana region was called "Kassi".<sup>9</sup> The idea of phaura appears evidently to have originated in a bent branch of a tree, such an article having been taken up by someone to open the earth with it at some unknown epoch of primaeval antiquity. Then it came to be tipped with some stone and subsequently with metal. It was generally made of light and hardwood such as the "Babool". The bullock hoes as depicted in the accompanying sketch was a more modern invention.

Other small implements were "Sohaga" a flat board of wood to be dragged over the ground to crush the clods.<sup>10</sup>

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7. Harbans Mukhia, "Agricultural technology in Medieval North India" in A. Roy and S.K. Bagchi, eds., Technology in Ancient and Medieval India, New Delhi, 1986, p.114.

8. Ibid.

9. D.C.J. Ibbetson, Panipat and Karnal pargana of Karnal Distt., op. cit., p.162.

10. Ibid.

"Jindra" was another implement, a flat board used by two men. It was used to make beds for irrigation.<sup>11</sup> "Jerā" a pitch fork with six teeth was used for raking up and spreading out straw.<sup>12</sup> "Kuhari" was a sort of an axe for cutting brushwood. "Gandasa" and "Gandasi" were choppers of different sizes.<sup>13</sup> "Jheli" was a two pronged pitchfork. It was used for picking or lifting crops.<sup>14</sup> "Kasola" was a hoe with a long handle and was used for weeding the Kharif crops which had long stalks.<sup>15</sup> "Dranti" or "Danti" was a sickle with teeth used for reaping crops and cutting grass.<sup>16</sup> The "Dandeli" was a rake with six or eight teeth used for collecting cow-dung and for making the ridges of "Kiasis", the beds.<sup>17</sup> The winnowing basket was called "Chaj". The "Gopiya" was a kind of sling made of rope with which stones were thrown in order

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11. Ibid.

12. Ibid.

13.

14. C.M. King, Punjab Distt. Gazetteers, vol.II, Hissar Distt. Part A, Civil and Military Gazetteer Press, pp.163-64.

15. Ibid.

16. Ibid.

17. Ibid.



to scare away the birds which used to damage crops while ripe or in the process of ripening.<sup>18</sup>

Carts were not much used in the pargana of Hissar and most of the carrying was done by camels.<sup>19</sup> A short, low, two wheeled barrow called "Rehru" was employed for carrying water and fodder.<sup>20</sup> In pargana Karnal "Ukhali" "Musal" and "Choj" were used for husking rice.<sup>21</sup> Cultivators also had four or five flat board baskets (Tokra)<sup>22</sup> for carrying grain fodder or manure.

In Rohtak pargana of southern belt of Haryana "Kasola", "Gadi", "Tangli", "Belan" (hand giving mill and sugar press) "Charkha", "Dal" (a bucket for lifting canal water) were some of the agricultural implements apart from the heavy implements like the plough, etc.<sup>23</sup> Drill and "Dibbling", that is dropping of the seed into holes driven into the ground by sticks in connection with cotton cultivation were the other agricultural implements besides the plough.<sup>24</sup>

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18. Ibid.

19. Ibid.

20. Ibid.

21. D.C.J. Ibbetson, Karnal Distt., op. cit., pp.162-63.

22. Ibid.

23. Punjab Govt., Rohtak Distt., op. cit., pp.106-7.

24. Irfan Habib, "The technology and Economy of Mughal India", IESHR, vol.XVII, No.1.

Water lifting devices:

The depth of water in Haryana region as discussed in the earlier chapter, varied from place to place. This variation in the depth of water conditioned the choice of crops as well as the application of agricultural implements and the water lifting devices. In Sirsa and Hissar pargana, irrigation from wells was almost impossible owing to the great depth of sub-soil water.<sup>25</sup> In many areas water was brackish and therefore useless for irrigation and domestic purposes.

Charas:

In the Sirsa and Hissar parganas the irrigation was done by means of leather bucket called "Charas" dragged by a rope being attached to the yoke of a pair of bullocks.<sup>26</sup> The low level of water in this region was the main reason behind the fact that more importance was given to Charas, than to "Dhenkli", or other water lifting devices cultivation in this area, due to the great depth of water, was very limited. In the Nalee circle of Hissar and Sirsa parganas water was near the surface and it was possible

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25. C.M. King, Final Report on Second Revision of the regular Settlement of the Sirsa and Fazilka Tahsil 1900-1904, Civil and Military Gazetteer Press, p.31.

26. Ibid., p.3.

here to extend well irrigation.<sup>27</sup> Charas was also used in some areas of pargana of Rohtak.<sup>28</sup> The Mughal emperor Babur had also noticed the use of Charas in the Mewat region, which included the pargana of Gurgaon, Firozpur Jhirka etc.<sup>29</sup>

Dhenkli:

Dhenkli was used to lift water from wells in various parganas of southern and north-eastern belt of Haryana. A bucket tied to a rope was called "Dhenkli". In the eastern and western part of the pargana Rohtak and in Dadri and Jhajjar circle where water was not more than 15 to 30 feet deep, "Dhenkli" was used to carry the water.<sup>30</sup> In Gurgaon pargana "Dhenkli" was used sometimes and especially at a time when there was a failure of rain.<sup>31</sup> In the Ambala and Thanesur pargana of North eastern belt where water level was around 15 to 20 feet "Dhenkli" was the main water lifting device.<sup>32</sup>

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27. Ibid.

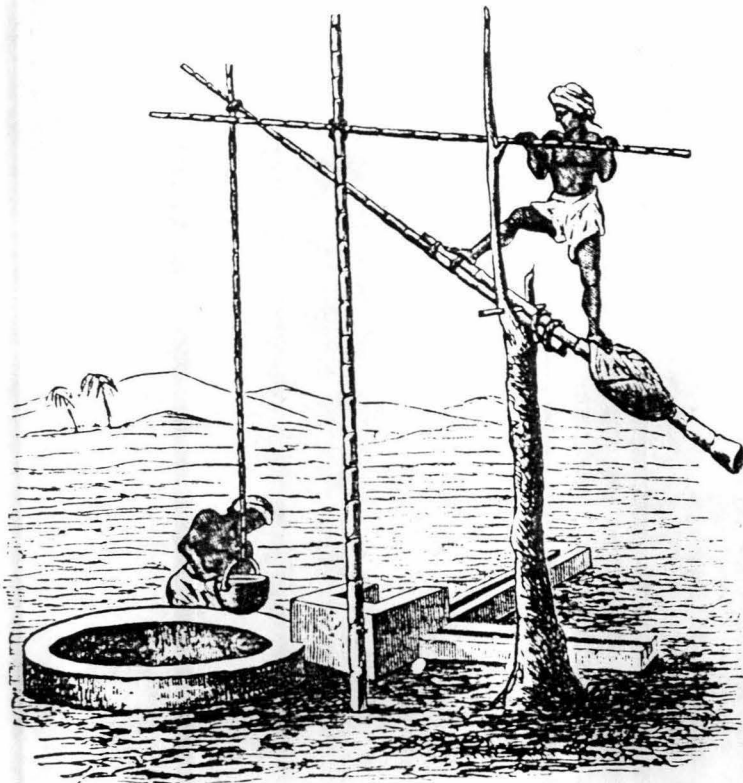
28. Punjab Govt., Rohtak Distt., op. cit., p.108.

29. Babur Nama - Tr. by Annette Susannah Beveridge, vol.II, Reprinted 1979, New Delhi, p.487.

30. Punjab Govt., Rohtak Distt., op. cit., p.108.

31. J. Wilson, Circular No.16 from H.C. Fanshaw (official Secretary to Govt. of Punjab and its Dependencies) To all heads of Departments, Commissioners and DCs in Punjab Agricultural Distress in Punjab - 1884 - Punjab Govt. Sectt. Press, Lahore, p.3.

32. Edward C. C. Extracts from Reports of the Settlement of the Parganas formerly comprised in Thanesur Distt. 1878-79, Punjab Printing Co. Lahore, p.27.



Dhenkali

Source:- Clem-G. Parsons, An Administrative Handbook  
of Ambala Distt; 1898, Civil and Military Gazette  
Press.

Persian Wheel:

Persian wheel had an important place among the various water lifting devices. Babur during the 16th century was impressed <sup>with</sup> the device and described the importance of its use.<sup>33</sup> Persian wheel was an important addition to the water lifting devices which affected the agricultural production process to a considerable extent. Persian wheel was a device which in the form of a wooden machine, represented a notable example of pin-drum gearing. It was probably imported during 13th or 14th centuries. By the 16th century when it was enthusiastically described by Babur it had become the peasant's principal means of water lifting in Indus and trans-Jamuna regions. Its use was limited to these areas until the later part of the 19th century, when with the coming of the metallic Persian wheel, the device spread to many other parts of the country. Persian wheel was more efficient in wells of moderate depth and could not be effectively utilised in the deep wells.

In the north eastern belt of Haryana region, Persian wheel was diffused to a considerable extent.<sup>34</sup>

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33. Babur Nama, op. cit., p.487.

34. Chetan Singh, "Well irrigation methods in medieval Punjab, The Persian Wheel reconsidered", IESHR, July-Aug. 1985; D.C.J. Ibbetson, Karnal Distt., op. cit.; A. Kinsington, Final Settlement Report of the Ambala Distt., 1893, Civil and Military Gazetteer Press.

Since the water table in almost all the places in the eastern part of the belt was either near the surface or of moderate depth and the taste of water was also sweet, Persian wheel was a complete success.

In the western belt of Haryana where depth of water was great as it has been discussed in the previous chapter, the Persian wheel could not be economically utilized and agriculture, therefore totally depended on rainfall. In the southern belt of Haryana though, some places water was near the surface but Persian wheel was not used for agricultural purposes. In some other places it was tried but without any success due to reasons discussed below.

If we look at the water tables of various parganas of southern belt, we will find the depth of water varied ranging from 10 feet to 120 feet and in some of the areas like Nuh even more. Persian wheel could have been applicable in the areas having water table around 10 to 20 feet below the surface. But we find that it was not put into practice even in the areas where water level was suitable for its use. The reason for the non-feasibility of Persian wheel seemed to be the nature of water in some of the areas. Throughout the pargana, the land contained salt.

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35. Punjab Govt., Punjab Distt. Gazetteer, vol.III-A, Rohtak Distt., 1910, Civil & Military Gazetteer Press, p.99.

It was the presence of canal or rain water which kept the well water sweet. This sweet well could soon turn to brackish and even salty if the influence of canal water were removed by lifting the upper layer of the well water.<sup>36</sup>

In some areas of this pargana, ~~we find that Persian areas of this pargana,~~ we find that Persian wheels were installed but only to be removed soon.<sup>37</sup> In fact, Persian wheel was heavy and costly apparatus and the peasants could not afford to instal it on a temporary basis. Due to the canal and lake water the upper layer of the well water was sweet and the rest of the water containing deep layers was brackish. As soon as this upper layer of well water was removed or lifted out by the Persian wheel the well water became useless for agricultural and domestic purpose. Thus the wells in this belt could be used only for a short span of time. Persian wheel being a heavy apparatus could not be transferred from one well to another. In comparison with the Persian wheel, "Dhenkli" was a light device, used for lifting water and could be taken from one well to another in no time. Thus "Dhenkli" was used to draw the upper layer of the well water.

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36. Ibid.

37. Ibid.

Extending the same argument we find that a major chunk of the wells in this belt was kutchha well and not pucca ones.<sup>38</sup> Since wells were soon to be abandoned due to the nature of water, the peasants could not afford nor was it national to construct pucca wells.

Crop Pattern:

In order to understand the dynamics of the rural economy, it is necessary to analyse the system of agricultural production that existed in Haryana region during the 18th century. Though the paucity of detailed evidence limits the scope of such an attempt, it can yet be made up by the availability of some village level records. These records are in the form of "Arsathas".<sup>39</sup> Since some parganas of western and southern belt of Haryana were under the Jagir or Ijara of the Amber rulers for quite some time, these documents preserved at the Rajasthan State Archives, Bikaner, pertain to some of these parganas such as Narnaul, Bawal, Chalkalyana, Rewari etc. However such information regarding agricultural production pertaining to parganas outside the jurisdiction of the Amber rulers is lacking. Some of the parganas of western belt

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38. Ibid.

39. These records have been preserved in the Jaipur section of Rajasthan State Archives, Bikaner.



were in the jurisdiction of the Bikaner rulers<sup>40</sup> but no record of agricultural production of those parganas is available.

Apart from the village records, Gazetteers and Settlement Reports of 19th century of various parganas of Haryana region give a detailed description of agricultural production. Though these records belong to the 19th century, they throw light on the agricultural operations of the 18th century too, since there was no drastic change in them. No other document that might have been left by officials of other imperial Jagirdars, has survived. Moreover, the records which belong to Amber ruler's parganas are also not in a continuous series. Such gaps will have a bearing on our understanding of the region's economy. But despite such gaps and the nature of the scattered evidences, it is possible to bring into focus the agrarian economy of the region.

The parganas, held by the Amber rulers in Jagir or Ijara, many in numbers, exhibited fluctuations in number over time. It might tentatively be assumed that

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40. Gauri Shankar Ojha, Bikaner Rajiya Ka Itihas - Vikram Samvat - 1996/1939 A.D., Ajmer, p.120; Daya Dyal Ki Khyat, Zild-2, pp.68, 69/ Powlett, Gazetteer of the Bikaner State, 1874, Govt. Press, p.53.

the nature and the system of agricultural production that existed in these parganas also reflect the conditions existing in the parganas which were either under the control of other imperial Jagirdars or directly held in the Khalisa.

With the help of available sources of material, it is possible to throw some light on some other aspects of agrarian economy such as the kind of crops grown in the region, crop rotation and the movement of prices of foodgrains. Some of these aspects related to the adjoining region of eastern Rajasthan which was held by the Amber rulers partly in "Watan" and partly in Jagir or Ijara, have been studied by S. Nurul Hasan and S.P. Gupta.<sup>41</sup> Their findings about eastern Rajasthan, in a nutshell, are as follows. The century from C. 1650 to 1750 registered a degree of advance in agricultural production as well as an upward price mobility. The production of cash crops in the Kharif (summer) season increased and the proportion of crops of the Rabi (winter) harvest grew as compared to the Kharif harvest as a whole.

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41. S. Nurul Hasan, K.N. Hasan and S.P. Gupta, "The pattern of agricultural production in the territories of Amber - C. 1650-1750", Proceedings of Indian History Congress - 28th session at Mysore-Aligarh, 1966, pp.244-64 - S. Nurul Hasan and S.P. Gupta, "Prices of foodgrains in the territories of Amber", PIHC-Patana, 1968, pp.345-68.

The Rabi crops in eastern Rajasthan required a considerable degree of investment. The additional surplus for investment in agriculture was very much there. The price rise might have been to the benefit of the peasantry though obviously the benefits would be shared unequally by its different sections. It is due to these reasons that the peasants preferred to pay the revenue in cash by shifting to Zabti crops, the revenue for which was collected in cash.

The Ain-i-Akbari has given us the classical description of the types of land which was divided into four categories in Mughal times, depending on the continuity of cultivation. These categories are (1) Polaj, (2) Parauti, (3) Chachar and (4) Banjar.<sup>42</sup> Polaj was a land cultivated annually for each crop in succession and was never allowed to be fallow.<sup>43</sup> Parauti was a land left out of cultivation for a time that it may recover its strength.<sup>44</sup> Chachar was one that had lain untilled for three or four years, and Banjar remained uncultivated for five years or more.<sup>45</sup> The first two

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42. Abul Fazl, Ain-i-Akbari, vol.II, tr. by Col. H.S. Jarrett, Third edition, 1978, p.68.

43. Ibid.

44. Ibid.

45. Ibid.

kinds of land were further sub-divided into three classes, good, moderate and bad.<sup>46</sup> They added together the produce at each sort and a third of this represented the mean produce. One-third of the mean produce was fixed as the standard land tax.<sup>47</sup>

During the spring harvest, in the best sort of Polaj land, wheat output amounted to 18 maunds per Bigha. In a medium sort of Polaj, the same was 12 maunds per Bigha and in the worst, it amounted to 8 maunds per bigha.<sup>48</sup> In the same three categories of Polaj land, good medium and bad, the barley was produced 18, 12, and 8 maunds per bigha respectively and Aryan millet (Chana) 10 maunds 20 sers, 8 maunds 20 sers and 5 maunds 5 sers respectively.<sup>49</sup>

In Autumn, cotton harvest in best Polaj, yielded 13 maunds per bigha, in medium polaj it was 10 maunds 20 sers and in the worst sort was 5 maunds only. Rice was produced 17 maunds, 12 maunds and 20 sers, and 9 maunds 15 sers per bigha in the best, medium and poor categories of Polaj respectively. Jowar was produced

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46. Ibid.

47. Ibid.

48. Ibid.

49. Ibid.

13 maunds, 10 maunds and 20 sers, and 7 maunds and 20 sers respectively.<sup>50</sup>

The year in medieval India was divided into three seasons of equal duration. In Haryana region these were known as the hot season or "Kharsa" which included Phagan, chet, Baisakh and Jeth (February, March, April, May and June); the rainy season or "Chaumasa" during Sarh, Sawan, Bhadon and Asauj, (June, July, August, September and October), and the cold season or "Sayala" spreading over Kaitak, Mongsir, Posh, and Magh (October, November, December, January and February).<sup>51</sup> The two annual crops were known as Sawani, for the Autumn or Kharif crops, and SaMhi or Hari, for the spring or Rabi crops.<sup>52</sup>

In the villages of western belt of Haryana many crops were grown in both the Kharif and Rabi seasons. In Pargana Narnaul, 15 crops were grown in the Kharif cultivation during the year 1761 A.D. In the year 1764 A.D. in the same pargana 12 crops were grown in the Kharif

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50. Ibid.

51. D.C.J. Ibbetson, Report on the Revision of Settlement of the Panipat and Karnal Pargana of the Karnal Distt. 1872-80, Allahabad Pioneer Press, p.167.

52. Ibid.

cultivation and 17 crops in the Rabi season. Again, in the year of 1765 A.D., we find 11 crops in the Kharif season and 16 crops in the Rabi.<sup>53</sup> Different crops were grown in different seasons except for one or two vegetables which were common to both the seasons.

Types of Crops:

Types of crops which were grown in three different belts of Haryana i.e. (1) the Southern belt, (2) the Western belt and (3) the North eastern belt can be classified into four categories: (a) Cereal crops, (b) Cash crops, (c) Pulses and (d) Vegetables. These crops were divided into both the seasons, though their proportion varied from pargana to pargana and season to season. During the Kharif season Bajara (Bulrush millet) Jowar, Paddy, Maize, Kada, Keguni, Varti Ghaghle, Mandwa were some of the important cereal crops in this region.<sup>54</sup> The cash crops were cotton, sugarcane, oil-seeds, Tobacco, Poppy etc.<sup>55</sup> A large number of pulses i.e. Moth Moong (Centils), Chola (Aryan millet), Urd etc. were grown in all three belts of Haryana.<sup>56</sup> Masoor

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53. Arsatha of Pargana Narnaul, Vikram Samvat, 1818-22/1761-65 A.D.

54. Arsatha, Pargana Narnaul, V.S. 1818-22, 1827 to 1830/1761-65, 1770-1773 A.D.

55. Ibid.

56. Ibid.

was a pulse grown only in southern belt of Haryana. Vegetable crops covered a significant area in different tracts of the region. A large number of vegetable crops like Tori Moali Kachar (a kind of Muskmelon), Ghiya (Gourd), Bangan (Brinjal), Kakri, Watermelon, Onion, Carrot etc. were some of the important crops of the western belt of the region under study.<sup>57</sup>

The important foodcrops of Rabi harvest were Wheat, Barley, Gram, and other mixed crops. These mixed crops were "Gochani" (mixture of wheat and gram), "Guji" or "Gojara" (mixture of wheat and Bajara), "Bejhari" (mixture of gram and Barley). Among the cash crops of Rabi we had oilseeds, Ajwain, Sarson (Mustard) etc. Tobacco and Sugarcane were produced in Rabi harvest. All the zabti crops were not cash crops.<sup>58</sup> Similarly many crops which were assessed under the Batai Jinsi system were also marketable crops.<sup>59</sup> All the parganas under study were growing almost all types of crops though in varying proportion.

In the zabti areas of the western belt of Haryana, vegetable crops were grown in large number.<sup>60</sup> Prominent

57. Ibid.

58. Crops like Maize a foodcrop were assessed under Zubti system in the western belt of Haryana/Arsatha-Pargana Narnaul V.S. 1827/1770 A.D.

59. Arsatha, Pargana Narnaul - V.S. 1827-183/1770-1773 A.D. Oilseeds like Sarson (Mustard) and "Til" were assessed under Botai Jinsi system but were marketable crops.

60. Arsatha - Pargana Narnaul - V.S. 1821/1764 A.D.

among them were Mooli, Tori, Kachar, Ghiya (Gourd) and Carrot. The vegetables were grown in sandy soil and required frequent watering after sowing. Cash crops came next to the vegetable crops including Vani Cotton Mandwo etc. These cash crops were sown either in the areas of heavy rainfall or in the areas where water was not scarce. Maize was the only cereal crop sown in the Kharif harvest and assessed under the Zabti system.<sup>61</sup> Under the batai jinsi system we find that stress was laid upon cereal crops like Jowar Bajara Ghaghlo etc.<sup>62</sup> Pulses under batai system formed an important part. Pulses like Moong, Moth and Urd (lintles) were grown in the kharif seasons.<sup>63</sup> During the Rabi harvest vegetable as well as cash crops ~~ed~~ dominated the other crops in the zabti lands.<sup>64</sup> Among the vegetable crops Carrnot, Watermelon, Onion, Brinjal were the important crops.<sup>65</sup>

Due to lack of evidence we do not know of the area and crops under zabti and batai jinsi system

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61. Ibid.

62. Arsatha - Pargana Narnaul - V.S. 1818, 1821, 1822, 1827, 1828/ 1761, 1764, 1765, 1770, 1771 A.D.

63. Ibid.

64. Ibid.

65. Ibid.



separately in the other two belts i.e. southern and north-eastern belt. The list of the crops of Delhi and Agra Subas given in the Ain-i-Akbari and the sources of the nineteenth century clearly shows that all the four categories of crops as discussed above existed in all the three belts. About the north eastern belt which fell under Delhi suba, Abul Fazl has given a list of 24 crops in the Kharif harvest which includes cash crops, cereal crops as well as pulses. Watermelon and 'Kachalu' are mentioned in the list which were used for vegetable purposes. Moth Mash and Lobiya are the pulses described by Abul Fazl.

In the various parganas of the western belt of Haryana the proportion of foodcrops was higher as compared to other kinds of crops. The evidence shows that the cash crops were also grown in large numbers and the area under cultivation for cash crops was also significant. Though cash crops were grown in both the seasons, these were largely assessed according to the Zabti system. The pargana and yearwise break-up is given here in order to illustrate the position of various crops.

Table 1 shows that during the harvest season of 1761 A.D. cash crops covered about 26.1 per cent of the total cropped area assessed under the Zabti system. Cereal crops covered 8.3 per cent and vegetable crops 65.3 per cent of the total crops assessed. Among the

Table 1: Zabti Bighas of Pargana Narnaul

KHARIF CROPS

Crops/Years	1761		1764		1765		1766		1770		1771		1772	
	PCA	PR	PCA	PR	PCA	PR	PCA	PR	PCA	PR	PCA	PR	PCA	PR
Carrot	50.9	49	-	-	-	-	-	-	-	-	-	-	-	-
Poppy	18.6	14	-	-	-	-	-	-	-	-	-	-	-	-
Kada	4.3	5	-	-	-	-	-	-	-	-	-	-	-	-
Vani	4	9.4	67.9	68.7	48.6	44.1	50.8	47.8	88	89.6	59	57	50	43
Bangan (Brinjal)	2.3	2.2	-	-	-	-	-	-	-	-	-	-	-	-
Muskmelon (Kharbuza)	9.5	6.3	-	-	-	-	-	-	-	-	-	-	-	-
Kabri	2.2	2.2	-	-	-	-	-	-	-	-	-	-	-	-
Ajwain	5.2	7.8	-	-	-	-	-	-	-	-	-	-	-	-
Mooli	-	0.06	1.4	2.2	-	-	-	-	2.3	3.5	1.00	1.3	0.5	0.5
Watermelon	0.4	0.4	-	-	-	-	-	-	-	-	-	-	-	-
Tobacco	2.3	3.3	-	-	-	-	-	-	-	-	-	-	-	-
Maize	-	-	5.3	7.7	34	42	27.7	34.7	2	2.8	19.1	25	40	50
Kuri	-	-	22.6	19.1	14.9	12.3	-	-	-	-	1.00	0.2	6	4.5
Tori	-	-	0.7	0.2	0.4	0.5	0.8	1.00	-	-	-	-	-	-
China	-	-	1.2	1.3	-	-	-	-	-	-	12	11.3	-	-
Kachar	-	-	0.9	0.4	1.6	0.6	2.5	1.1	-	-	-	-	-	-
Ghiya (Gourd)	-	-	-	-	0.5	0.2	0.3	0.3	-	-	-	-	-	-
Ariya	-	-	-	-	-	-	-	-	7.7	4	5	2.3	3	1.4
Kaguni	-	-	-	-	-	-	17.9	15	-	-	2.8	2.3	-	-

Note: PCA = Percentage of Cropped Area (in bighas)  
PR = Percentage of Revenue (in Rs.)

Source: Arsatha - Pargana Narnaul, V.S. 1818, 1821, 1822, 1823, 1827, 1828/  
1761, 1764, 1765, 1766, 1770, 1771, 1772 A.D.

Table 2: Zabti Bighas of Pargana Narnaul

RABI CROPS

Crops/Years	1761		1764		1765		1766		1770		1771		1772	
	PCA	PR	PCA	PR	PCA	PR	PCA	PR	PCA	PR	PCA	PR	PCA	PR
Carrot			48	50.4	46.9	75.7	30.1	34.3	52.7	58.2	61	61	63.3	68.2
Poppy			15.2	12	2.4	3	26.1	23	5.2	4.6	14.6	13.8	-	-
Muskmelon (Kharbuza)			11.3	7.2	10.9	3.5	20.8	13.5	14	9.6	10	7	22.4	16.4
Brinjal (Bangan)			1.7	2	2.4	2.1	2.5	3	0.1	0.1	2.4	3	3.7	4.3
Chino			4.9	3.4	29.6	7.1	3	1.8	13	8.3	-	-	-	-
Kakri			3.4	3.4	1.8	0.7	3.7	3.8	5.2	5.6	5	5	10.6	11.4
Watermelon			0.4	0.4	0.2	0.1	0.4	0.2	-	-	-	-	-	-
Kada			2.7	3.1	0.6	0.2	1.7	2.2	4.1	4.7	-	-	-	-
Ajwain			3.7	5.4	0.6	3	3.2	5.2	0.3	0.5	0.1	0.3	-	-
Tobacco			1	1.5	1.5	1.3	4	6.4	4.7	7	2.4	4.5	-	-
Dhaniya			-	-	2.3	5.5	3.7	5.5	0.7	1.1	0.2	0.3	-	-
Mooli			7.3	11.1	0.4	0.04	0.4	0.2	-	-	-	-	-	-
Kushbo			-	-	-	-	0.4	0.6	-	-	0.7	1.5	-	-
Onion			-	-	-	-	-	-	-	-	2	2.8	-	-

Source: Arsatha - Pargana Narnaul, V.S.  
1818, 1821 to 1823, 1827, 1828/  
1761, 1764-1766, 1770-1772 A.D.

Table 3: Batai Cropped Area of Pargana Narnaul

KHARIF CROPS

Crops/Years	1761		1764		1765		1766		1770		1771		1772	
	PJY	PVJ	PJY	PVJ	PJY	PVJ	PJY	PVJ	PJY	PVJ	PJY	PVJ	PJY	PVJ
Barley	64.5	55	-	-	-	-	-	-	-	-	-	-	-	-
Wheat	34.7	44	-	-	-	-	-	-	-	-	-	-	-	-
Gram	0.6	0.6	-	-	-	-	-	-	-	-	-	-	-	-
Gochani	0.1	0.1	-	-	-	-	-	-	-	-	-	-	-	-
Jowar	-	-	61.5	59.5	80	76	48	45.1	87	85.2	65.1	63.6	51.6	47.3
Moong	-	-	4.6	5.3	0.5	0.7	1.7	2.1	4.6	5.7	5.3	5.8	14.2	16.1
Bajara	-	-	10	12.3	15.8	17.6	25.5	27.8	1.1	1.4	20.5	21.4	7	7.7
Moth (Lintils)	-	-	23.4	22.5	3.2	5.4	23.5	23.7	4.5	5.4	8.3	8.3	27	28.5
Til	-	-	0.5	0.3	0.1	0.1	0.02	0.1	-	-	0.2	0.2	-	-
Ghaghlo	-	-	-	-	-	-	-	-	2.5	2.1	0.4	0.3	-	-
Urd	-	-	-	-	-	-	-	-	-	-	0.1	0.1	0.1	0.2

Note: PJY = Percentage of Jinsi yielded  
(in maunds)

PVJ = Percentage of Value from Jinsi  
(in rupees)

Source: Arsatha - Pargana Narnaul, V.S. 1818,  
1821-23, 1827-1829/ 1761, 1764-1766,  
1770-1772 A.D.

Table 4: Batal Cropped Area of Pargana Narnaul

RABI CROPS

Crops/Year	1761		1764		1765		1766		1770		1771		1772	
	PJY	PVJ	PJY	PVJ	PJY	PVJ	PJY	PVJ	PJY	PVJ	PJY	PVJ	PJY	
Barley	-	-	73.7	68	74.5	65.8	68.6	59.3	68	60.5	70.7	65.6	74.1	69
Wheat	-	-	24.2	29.5	24.3	33	31.3	40	30.2	38	28.4	33.3	25.4	30
Gochani	-	-	0.4	0.4	-	-	-	-	-	-	-	-	-	-
Gram	-	-	0.7	1	1	1	0.06	0.1	1.3	1.4	0.6	0.8	0.3	0
Bejhar	-	-	0.8	1	-	-	-	-	-	-	-	-	-	-
Sarson (Mustard) {	-	-	0.2	0.2	0.1	0.1	0.01	0.05	0.5	0.1	0.2	0.2	-	-

Source: Arsatha - Pargana Narnaul,  
V.S. 1818, 1821-23, 1827-  
1829/ 1761, 1764-1766,  
1770-1772 A.D.

vegetable Carrot and Kharbuza (Muskmelon) were the most largely cultivated crops. Carrot alone during the Kharif harvest in 1761 A.D. covered more than 50 per cent of the total area assessed under Zabti system. Composition of Kharif crops during the 1764 A.D. indicates the domination of cash crops though in number cash crops were fewer than the vegetable crops. Cash crops constituted 90.5 per cent of the total crops assessed under the zabti system. A very small percentage of zabti area was devoted to the cultivation of vegetables. Food crops were cultivated only on 5.3 per cent of the total zabti area. Out of the total 90.5 per cent land cultivated under cash crops 67.9 per cent was cultivated under the crop Vani.

The Kharif crops of 1765 A.D. show that on the land assessed under zabti system cultivation of the crop Vani declined as compared to the year 1764 A.D. In 1764 A.D. 67.9 per cent of the cultivated land was under Vani but in 1765 A.D. it was reduced to 48.6 per cent of the total land. Similarly land under cash crops in 1765 A.D. also declined significantly. Still cash crops dominated the other crops and the total zabti area under cash crops in 1765 A.D. was 63.5 per cent of the total land under cultivation. Area under vegetable crops also declined by about 2 per cent as compared to the

year before. Area under cereal crops increased tremendously from 5.3 per cent to 34 per cent of the total zabti area. Maize cultivation was boosted up in this year.

During the Kharif season of 1770 A.D. the size of cereal crops in the zabti area was abnormally small. The area under cash crops on the other hand increased. The area comprising cash crops was 95.7 per cent of the total area. Area under vegetable crops was almost the same as in the previous years, with little variations. Vegetable crops covered 2.3 per cent of the total area assessed under zabti system.

In the area assessed under zabti system in 1771 A.D., the proportion of land under vegetable crops during the Kharif season increased substantially. This year it was 12 per cent of the total zabti land. Land under cash crops cultivation constituted 66 per cent of the total land. The crop composition of 1772 A.D. shows the increasing importance of the cereal crops like Maize in the zabti area during the Kharif harvest. It seems that only those cereal crops were assessed under zabti system which could be easily sold in the market. Area under Maize cultivation increased every year. In 1772 A.D. during the Kharif harvest Maize cultivation covered 40 per cent of the total zabti area. Vegetable crops covered only 0.5 per cent of the total zabti bighas.

Cash crops though declined in comparison to previous years, covered 53 per cent of the land assessed under zabti system.

Table 2 shows that in pargana Narnaul during 1764 A.D. 69.7 per cent of the zabti land was cultivated under vegetable crops during the Rabi harvest. Among vegetables the crop of Carrot dominated and area under its cultivation covered 48 per cent of the total zabti area. Cash crops like Tobacco, Dhaniya etc. were cultivated over 27.2 per cent of the zabti land. Land under cereal crops was also in sizeable quantity.

The evidence of 1765 A.D. shows the predominance of vegetable crops in the Rabi harvest in bighas assessed under zabti system. The area under vegetable crops in 1765 A.D. constituted 92.2 per cent of the total cultivated area. Area under cash crops which was 27.2 per cent a year ago declined to 7.2 per cent this year. The table shows decline in cereal crops. Though the area under cash crops declined in 1765 A.D. the table shows an increase in the area under tobacco cultivation which shows the growing importance of tobacco in the western belt of Haryana.

In the Rabi harvest of 1770 A.D. vegetable crops gained prominence, over other crops covering 89.1 per cent of the total area under zabti system. In rest of



10.9 per cent of the area, cash crops like tobacco, poppy, Ajwain etc. were sown. During 1771 A.D. as shown in the table 2 the vegetable and cash crops were in a dominant position. No pulses or cereal crops were assessed under the zabti system during the Rabi harvest. Vegetable crops in Rabi season covered 70.4 per cent of the total area assessed under zabti system. Cash crops on the other hand covered 28 per cent of the total area. Among vegetable crops carrot like most of the previous years predominated. Among the cash crops of this season poppy and tobacco were the prominent crops.

The Kharif crops assessed under batai jinsi system is shown in the table 3. It shows that during 1761 A.D. all crops assessed under batai system were foodcrops. During 1764 A.D. 71.5 per cent of the total batai area was devoted to cereal crops. 28 per cent of the land was cultivated under pulses. Oilseeds like "Til" etc. covered only 0.5 per cent of the total batai land. The batai area cultivated under cereal crops in 1765 A.D. was 95.8 per cent of the total batai bighas. Foodcrops predominated over the pulses and oilseeds in the areas assessed under batai jinsi system. Land under pulses cultivation constituted only 3.7 per cent of the total area.

Pulses during Kharif harvest in 1770 A.D. covered 11.6 per cent of the total batai area. In rest of the

88.1 per cent of the area cereal crops were cultivated. Out of 88.1 of the batai area under cereal crops Jowar alone covered 85.2 per cent of the total cultivable land. The Kharif crops assessed under batai system during 1772 A.D. shows that cereal crops as well as pulses maintained their dominance over the other crops.

In the batai area under Rabi crops as shown in the table 4 foodcrops covered a major percentage of the land. In the year 1764 food crops constituted 99.8 per cent of the total crops. Oilseeds were also assessed under batai jinsi system but area under their cultivation was abnormally low. The area under cereal crops in 1765 A.D. was 99.9 per cent of the total batai jinsi area. Among the cereal crops barley dominated other crops. Wheat came next. It was cultivated in 24.2 per cent of land assessed under batai system. Barley covered maximum land which constituted 68 per cent of the total land during 1770 A.D. Wheat came next covering 30.2 per cent of the total area. During 1772 A.D. only cereal crops like barley, wheat etc. were sown in the batai jinsi area.

Table 5: Zabti Land of Pargana Rewari  
KHARIF CROPS 1664 A.D.

Crops	Percentage of Cropped Area (in bighas)	Percentage of Revenue (in rupees)
Kaguni	11.8	14.3
Kachara	0.4	0.4
Jowari	2.4	3.1
Kheera	0.1	-
Vani	29.1	38.2
Chola	0.1	-
Kuri-Varti	48.7	33.7
Mandwa	5.6	8
Tori	0.3	0.6
Kada	0.2	0.1
San	0.2	0.5
Bajara (Bulsush millet)	0.3	0.6
Watermelon	0.1	0.1
China	0.1	-

Table 6: Batal Land of Pargana Rewari  
KHARIF CROPS 1664 A.D.

Crops	Percentage of Jinsi yielded (in maunds)	Percentage of Revenue (in rupees)
Bajara (Bulrush millet)	72	72.7
Jowar	11.4	8.3
Moth	14.3	15.4
Moong	1.00	0.4
Cotton	1.1	2.7
Til	0.1	0.2
Urd	0.1	0.1

Table 7: Zabti Area of Pargana Rewari  
RABI CROPS 1664 A.D.

Crops	Percentage of Cropped Area (in bighas)	Percentage of Revenue (in rupees)
Tobacco	2.5	6
Brinjal	13.6	16.5
Poppy	33.6	31.1
Mooli	4	4.8
Kakri	10.6	12.8
Ajwain	1.4	2.1
Carrot	12.7	14.2
Chino	19.1	8.8
Karar	1.3	1.7
Onion	1.2	1.8

Table 8: Batai Area of Pargana Rewari  
RABI CROPS 1664 A.D.

Crops	Percentage of Jinsi yielded (in maunds)	Percentage of Revenue (in rupees)
Bajara	18.1	19.5
Gram	8.6	6
Bejhari	1.2	0.4
Karar	0.1	1.5
Gochani	1.00	0.3
Wheat	2.00	3.1
Masoor	0.1	-
Sarson	0.1	0.1
Peas	0.5	-
Barley	67.8	68.7

Tables 5 to 8 show the crop composition of Rewari pargana during 1664 A.D. Table 5 indicates the dominance of Kharif over the other crops in the area assessed under zabti system. Area under cash crops constituted 78 per cent of the total zabti bighas. Cereal crops covered 17.9 per cent and vegetable crops only 1.1 per cent of the total area.

In the Rabi harvest vegetable crops covered ground 62.5 per cent of the total zabti bighas. The remaining of 37.5 per cent of the bighas were sown under cash crops. The vegetable crops like Carrot, Chino, Brinjal etc. were cultivated almost in equal number of bighas of land. Though no significant change can be noticed in the crop patterns of two parganas Rewari and Narnaul but the number of crops in zabti and batai jinsi area of pargana Rewari was more than that of Narnaul pargana. Cotton crop finds mention only in the pargana Rewari and was assessed under batai system. Cotton cultivation does not find mention in the sources pertaining to pargana Narnaul. The reason for this can be traced to the depth of water of this region. Cotton is a crop which needs frequent watering. The water requirement of the cotton crops could be met only in the areas where water level was near to the surface. In the pargana Narnaul ground

water was deep<sup>66</sup> and thus made the cotton cultivation impracticable. In the pargana of Rewari on the other hand water was near the surface.<sup>67</sup> Pucca as well as Kutchā well existed in this pargana<sup>68</sup> for irrigational purposes which increased feasibility of cotton cultivation.

Due to the lack of enough sources it is not possible to show any trend in the crop pattern of the region under study. But still with the yearwise break-up of different categories of crops we can analyse the increasing or decreasing importance of different crops.

Table 9: Percentage of Area under different Crops  
KHARIF

Crops/Years	1764	1765	1766	1770	1771	1772	1773
<u>Zabti area:</u>							
Vegetable crops	4.2	2.5	3.6	2.3	12	0.5	0.1
Cash crops	90.5	63.5	50.8	95.7	66	53	58.6
Cereal crops	5.3	34	45.6	2	21.9	46	40.5
Pulses	-	-	-	-	-	-	-
Oilseeds	-	-	-	-	-	-	-
<u>Batai area:</u>							
Vegetable crops	-	-	-	-	-	-	-
Cash crops	-	-	-	-	-	-	-
Cereal crops	71.5	95.8	74.1	88.1	89.1	85.6	86
Pulses	28	3.7	25.8	11.6	10.7	14.3	14
Oilseeds	0.5	0.1	-	-	0.2	0.1	-

66. F.C. Channing, Land Revenue Settlement of the Gurgaon Distt., Central Jail Press, Lahore, p.8.

67. Ibid., pp.7-8.

68. Ibid.

Table 10: Percentage of Area under different Crops  
RABI

Crops/Years	1764	1765	1766	1770	1771	1772	1773
<u>Zabti area:</u>							
Vegetable crops	69.7	92.2	61	89.1	70.4	100	-
Cash crops	27.2	7.2	37.4	10.9	28	-	-
Cereal crops	2.7	0.6	-	-	-	-	-
Pulses	-	-	-	-	-	-	-
Oilseeds	-	-	-	-	-	-	-
<u>Batai area:</u>							
Vegetable crops	-	-	-	-	-	-	-
Cash crops	-	-	-	-	-	-	-
Cereal crops	99.8	99.9	100	99.5	99.7	100	-
Pulses	-	-	-	-	-	-	-
Oilseeds	0.2	0.1	-	0.5	0.3	-	-

As given in table 9 we find that in <sup>Kharif</sup> ~~the~~ season the percentage of cash crops under zabti system was much higher than that of cereal and vegetable crops. The bulk of cereal crops was assessed under the batai jinsi system. Oilseeds like Mustard (Sarson) and Til were sown in both Kharif and Rabi seasons but were assessed only under batai jinsi system. Area under cereal crops in the Rabi harvest under zabti lands were not significant and in early seventies it totally vanished from the crop calender. It is not possible to discern any reliable trend in the crop pattern due to lack of adequate informations. Nonetheless, it is clear that a very high percentage of the cereal crops was assessed under the batai jinsi system. Vegetable

and cash crops on the other hand were assessed under the zabti system. However, jinsi system predominated over the zabti system in the western belt of Haryana as indicated by the low percentage of cultivated area devoted to the cash and vegetable crops. It is important to note here that both the superior and coarse varieties of foodcrops grown in this region had become a commodity and were marketable. The foodgrains produced in Haryana found their market in Delhi.<sup>69</sup> This may partly explain why such a large proportion of the total cultivated area was devoted to the cultivation of foodcrops.

The account of total cultivated area under zabti system in the pargana of Narnaul is given in various Arsathas of the pargana.<sup>70</sup> The area under batai jinsi system is not mentioned in any of the available documents. The zabti land under cultivation in Rabi and Kharif harvest is shown in the table given below.

Table 11: Area under Cultivation in Bighas  
Pargana Narnaul

Crops/Years	1761	1764	1765	1766	1770	1771	1772	1773
Rabi	421½	528½	623½	442½	350	432	182½	-
Kharif	-	269	678	805½	228½	551½	430½	509½

69. H.M. Elliot & John Dowson, History of India as told by its own historians, vol.III, Kitab Mahal Pvt. Ltd., p.149.

70. Arsatha - Pargana Narnaul - V.S. 1818, 1821-1823/1761, 1764 to 66 A.D.



The above table shows an increase in area under zabti system from 1761 to 1766 A.D. The increase might have been due to the growing importance of cash crops in the region. More and more cash crops were sown during this period and assessed under zabti system. The data from 1766 to 1770 A.D. are not available. Arsatha of 1763 A.D. makes no mention of crops or area under cultivation as the pargana was given on Ijara.<sup>71</sup> The pargana was declared "Jortalab" and revenue collected through Ijaradars for Kharif harvest was Rs. 9342 and 4 annas.<sup>72</sup> The Arsatha of this year clearly mentions that the Bhomia of one village "Bhakhri" had embezzled the revenue of the village.<sup>73</sup> It seems that during this period of trouble the area under cultivation might have declined. The data of the area cultivated under zabti system during the early seventies are inconsistent and fewer than those in the sixties. Though the area under batai system is not mentioned in the given sources, but as table 12 shows the revenue collected in kind under batai jinsi system declined. This decline explicitly shows that either the area under batai jinsi system had declined or the revenue collected in kind did not reach the state in full.

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71. Arsatha - Pargana Narnaul - V.S. 1825/1768 A.D.

72. Ibid.

73. Ibid.

Table 12: Revenue Collected in maunds from Batai Jinsi area

	Wheat	Barley	Bajara	Jowar	Ghaghlo	Mustard	Gram	Gochani	Moth	Til
1761	2875.75	5337.4	-	-	-	22 sers	58.12	1.32	-	-
1764	3379	10299.10	288.4	1739.5	-	15	106	42 $\frac{1}{2}$	662	3
1765	167	511.27	626.19	3178.30	128	-	7.6	-	21.17	2.12
1766	3385.16	7422	1286	2420	-	17.2	29	-	333.16	1.18
1770	2673	5934	19.15	149.29	41.38	37	-	-	18.10	-
1771	1959	4876	759.28	2402	14.25	11	43.32	-	308	5.17
1772	985	2869	109.26	809.35	-	-	9.11	-	113	3
1773	-	-	126	956	37.29	-	-	-	-	-

The other interesting phenomenon which one discerns from the examination of the proportion of revenue realized in cash and kind over a period of time was that the revenue realized in cash was much more than one in kind. It seems that during the 18th century there was an extension of the zabti system over the batai areas. This has also been corroborated with the evidence from other records which clearly state that there was a growing tendency on the part of the peasants to pay revenue according to the zabti system, even for foodcrops.<sup>74</sup> Perhaps it was due to the relative stability of the zabti rates per bigha during the late 17th and early 18th centuries when agricultural prices were rising<sup>75</sup> constantly that the zabti system tended to be more advantageous to the peasants who were able to get some benefit of the price rise. It can also be observed that the cash nexus were firmly established in this region inspite of the predominance of foodcrop cultivation as compared to cash crops. The growing willingness on the part of peasants to pay cash revenue even for foodcrops is indicative of a growing demand for foodcrops perhaps in the region of Delhi and Agra.

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74. S. Nurul Hasan and S.P. Gupta, "Prices of foodgrains in the territories of Amber", PIHC, Patna, 1968, pp. 345-68.

75. Ibid.

Percentage of revenue realized under  
Zabti and Batal Jinsi system

KHARIF CROPS

Years A.D.	Percentage of revenue according to Zabti system	Percentage of revenue realized from Batal Jinsi
1761	-	-
1764	92.6	7.4
1765	85.9	14
1766	87.8	12.2
1770	93	7
1771	83	17
1772	93.5	6.5
1773	96	4

RABI

Years A.D.	Percentage of revenue according to Zabti system	Percentage of revenue realized from Batal Jinsi
1761	69.5	30.5
1764	72.2	27.8
1765	92.8	7.2
1766	76.6	23.4
1770	68.2	31.8
1771	73	27
1772	81	18.8
1773	-	-

Prices of Foodgrains:

The movement of prices of agricultural crops have been studied by S. Nurul Hasan and S.P. Gupta for eastern Rajasthan for the period from 1650 to 1750 A.D. Apart

from the empirical study of eastern Rajasthan various other findings also show an upward trend of price rise during the seventeenth and early eighteenth centuries. The rise in the prices of metal as well as other commodities was so remarkable that this phenomenon has been termed as "Price Revolution" by some historians of economic history.<sup>76</sup> Haryana region being one of those nearest to the Capital (Delhi) could not have remained unaffected by such price fluctuations.

Pargana Narnaul and Rewari

Crops	Zabti rates of Ain-i-Akbari (in Rs.)	Zabti rates during 1770 A.D. (in Rs.)
Carrot	0.30	3.30
Poppy	1.20	2.60
Onion	0.84	3.40
Ajwain	0.84	5.30
Cotton	0.90	-
Moth	0.30	1.10
Jowar	0.35	0.90
Wheat	0.62	1.40
Barley	0.41	1.00

76. Irfan Habib, Agrarian System of Mughal India, Bombay, 1963, p.342.

The above table explicitly shows the differences in the prices given in Ain-i-Akbari and the prices of 1770 A.D. Prices had risen more than 100 per cent since the sixteenth century. The prices of cash crops, including vegetables had risen more sharply than those of foodgrains.

The data which we get for Haryana region do not pertain to many parganas and are not consistent. Prices of foodgrains only belonging to pargana Narnaul are available for a number of years. We are therefore compelled to take this pargana as a representative area for the entire region. It may be assumed that the changes in the level of prices of foodgrains in pargana Narnaul would reflect similar trends for the other parganas of Haryana as well. The information of prices has been collected from the Arsathas. The Arsathas show the actual sale price of the state's share of grains along with the quantity sold. The grain was sold at different intervals. However, we have taken the average price of commodities, sold at different intervals within the season. Prices are given in terms of quantity available per rupee. However, we have converted the prices in terms of rupee per maund. The movement of prices of foodgrains can be observed from the following table.

Prices of foodgrains (in rupee per maund)Pargana NarnaulKharif Crops

<u>Years</u> <u>A.D.</u>	<u>Bajara</u>	<u>Jowar</u>	<u>Til</u>	<u>Moth</u>	<u>Urd</u>
1761	-	-	-	-	-
1764	1.50	1.20	3.60	1.20	-
1765	1.00	0.90	2.70	1.30	-
1766	0.60	0.50	2.60	0.60	-
1770	1.10	0.90	2.30	1.10	-
1771	1.40	1.30	-	1.30	2.60
1772	1.20	1.00	-	1.20	1.60
1773	1.00	0.80	-	1.00	-

Prices of foodgrains (in rupees)Pargana NarnaulZabti crops

<u>Years</u> <u>A.D.</u>	<u>Wheat</u>	<u>Barley</u>	<u>Gochani</u>	<u>Gram</u>	<u>Bejhari</u>
1761	1.32	0.90	1.20	1.06	-
1764	1.50	1.20	1.60	1.50	1.40
1765	1.40	1.00	-	1.00	-
1766	1.00	0.70	-	1.00	-
1770	1.40	1.00	-	1.00	-
1771	1.30	1.10	-	1.40	-
1772	1.30	1.10	-	2.00	-
1773	-	-	-	-	-

When we look at the chart of the prices of foodgrains for the crops of both the seasons, we find that there is a considerable fluctuation in the prices upto 1773 A.D. In 1770 A.D. there is a sudden and steep

rise in the prices of almost all kinds of crops. This trend in the movement of prices largely fits into the pattern of prices established by S. Nurul Hasan for eastern Rajasthan.

As we have discussed earlier the area under cultivation in Haryana was assessed according to two different methods i.e. zabti and batai system. Almost all the cash crops were assessed under the zabti system. From 1761 A.D. to 1765 A.D. the crops assessed under zabti system were more in number than the batai system.<sup>77</sup> Crops under zabti system were always more than double those of batai system. But in 1766 A.D. in the Kharif harvest batai crops were more in number than the crops under zabti system.<sup>78</sup> Zabti crops in this year were six in number and the number of batai crops on the other hand was seven.<sup>79</sup> But in Rabi harvest again the old trend was resumed and crops under zabti system predominated the batai crops.<sup>80</sup>

During the early seventies of the 18th century the crops under zabti and batai area were almost equal in

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77. Arsatha, Pargana Narnaul v.s. 1818-1822/1761-1765 A.D.

78. Arsatha, Pargana Narnaul - v.s. 1823/1766 A.D.

79. Ibid.

80. Ibid.



numbers.<sup>81</sup> But the total number of crops during these years had declined considerably.<sup>82</sup> As we have seen, the number of crops during 1764 A.D. in the Pargana of Narnaul was 12 in the Kharif harvest and 17 in the Rabi.<sup>83</sup> But the Kharif and Rabi crops sown in 1772 A.D. were only 10 and 7.<sup>84</sup> The same trend is visible during 1773 when only 10 crops were sown in the Kharif harvest and at the time of Rabi the pargana was given on Ijara.<sup>85</sup> This declining number of crops in the pargana and in the end giving the charge of the pargana to Ijaradars indicates some kind of disturbance in the pargana. The Bhomias of the pargana might have ceased to pay the state's share and became rebellious. During 1768 A.D. the pargana of Narnaul was handed over to Ijaradars.<sup>86</sup> Out of the total of 175 villages of the pargana 22 villages were declared troublesome (Jortalab).<sup>87</sup>

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81. Arsatha, Pargana Narnaul, V.S. 1827, 1828, 1829/1770, 1771, 1772 A.D.

82. Ibid.

83. Arsatha, Pargana Narnaul - V.S. 1821/1764 A.D.

84. Arsatha, Pargana Narnaul - V.S. 1829/1772 A.D.

85. Arsatha, Pargana Narnaul - V.S. 1830/1773 A.D.

86. Arsatha, Pargana Narnaul - V.S. 1825/1768 A.D.

87. Ibid.

Due to this increasing trouble the state's share in the areas under batai declined as shown in table 12. The number of crops, as we have discussed above, had declined in the early seventies. In the areas under batai system the state's share was declining as shown in the table 12. In 1766 A.D. the state's share in wheat production at the pargana was 3385 mans and 16 sers. But we find that in 1772 it was reduced to 985 mans only. Similarly in the case of Barley the state's share was reduced from 10299 mans in 1764 A.D. to 2869 mans in 1772 A.D. In the case of Tower state's share came down from 1739 mans in 1764 to 956 mans in 1773 A.D.

One can speculate on the reasons for the declining share of the state in agricultural production as discussed by Irfan Habib in the Agrarian System of Mughal India. Jagirdars during the Mughal period could not manage the Jagirs as they pleased and had to conform to imperial regulations. But in the later part of 17th and early 18th centuries there seems to have been a tendency, increasing in its effect with the passage of time, to raise the revenue demand to a still higher magnitude derived from the very nature of the Jagirdari system. Under these conditions, it must have been inevitable that the actual burden on the peasantry became so heavy in some areas as to amount to depriving it of the means of

survival. The collection of revenue of this magnitude from peasants who had no possession or assets from which to pay could not be a healthy development. When the "arrayatis" (raiyat-peasants) could not pay the revenue they were subjected to punishment. Ultimately the peasants either started abandoning the lands to migrate to those parts of the country where repression was less, or rose into arms largely under the leadership of zamindars (Bhomias). This ultimately led to the decline of agricultural production. Consequently share of the state also declined. Since there is no evidence to show that repression or demand for revenue was less in the territories of those zamindars (Bhomias) where the peasants migrated, the above stated argument of Irfan Habib is open to question.

The embezzlement of the entire revenue by the Bhomias of their respective zamindars can be another reason. Since Bhomias had close social ties with the peasantry due to their social custom and caste factors and they needed money to maintain an army or to build a fort, it became easy for them to extract revenue from the peasantry and to use it for their fight against the imperial forces. In Narnaul pargana during 1768 A.D. the peasants under the leadership of Bhomia became

rebellious and the Bhomia had embezzled the revenue of a village,<sup>88</sup> though due to the paucity of the sources much evidences cannot be cited of this nature pertaining to Haryana region. But if we look at the sources of adjoining regions of Haryana i.e. eastern Rajasthan and Mewat region, we will find a lot of evidence showing embezzlement of the revenue by the Bhomias.

During the period under study, Rajputs, Jats, Meos, Khangzadas and Minas were the zamindars (Bhomias) in the Mewat region.<sup>89</sup> The most recalcitrant element among the zamindars was the Naruka segment of the Kuchhawa clan. There are numerous references of the seditious activities of the Naruka zamindars. In a number of documents they have been accused of forcibly collecting the land revenue and its misappropriation at the cost of Jagirdars. They embezzled entire "Hasil" of 12 villages in pargana "Toda Bhim",<sup>90</sup> and 13 villages in pargana Hasanpur<sup>91</sup> and all villages in pargana Khohri.<sup>92</sup> The imperial Jagirdars complained to the Mughal court that the Narukas plundered

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88. Ibid.

89. Abul Fazl, Ain-i-Akbari, vol.II, op. cit., pp.203-05.

90. Arzdasht, dt. Katik vadi-14, V.S. 1744/1687 A.D.

91. Arsatha, Pargana Hasanpur, V.S. 1747/1690 A.D., V.S. 1770/1713 A.D.

92. Fhirhashti-Dehai - Pargana Khohri, V.S. 1775 to 1807/1718 to 1750 A.D.

4 lakh rupees from 14 parganas of Alwar Sarkar. The imperial Jagirdars even after using the military force could collect only 3000 maunds of foodgrains.<sup>93</sup> The attitude of other Rajput zamindars was almost similar to that of the Narukas. We find that land revenue of 84 villages in pargana Gijgarh, Salawad, Udai and Hasanpur was embezzled by the Panchnots and Chauhan zamindars who refused to pay arrears of revenue to the Jagirdars.<sup>94</sup>

Saifu Khan, an imperial mansabdar, was informed by the Vakya newis (news writer) that his Jagir was plundered by the Panchnot Rajput zamindars. They carried away foodgrain, hurses and Rs. 20,000 with them.<sup>95</sup> Jashwant Singh Klot, an Ijaradar of the villages in pargana Khahri, embezzled the land revenue of two villages.<sup>96</sup>

The Jat zamindars were also actively indulged in robbery and plundering in the Sarkar of Alwar and Sahar and whole region between Akbarabad (Agra) to Shahjahanabad

93. Arzdasht dt., Asadh vadi-5, V.S. 1742/1685 A.D.

94. Arzdasht dt., Mqngsir vadi-2, V.S. 1774/1687 A.D.  
Arzdasht dt., Asadh Sudi-6, V.S. 1774/1687 A.D.  
Arzdasht dt., Fagun Sudi-1, V.S. 1746/1689 A.D.  
Arzdasht dt., Mqngsir Sudi-2, V.S. 1740/1683 A.D.  
Arzdasht dt., Katik Sudi-6, V.S. 1746/1689 A.D.

95. Arzdasht dt., Katik Vadi-13, V.S. 1742/1685 A.D.

96. Fhishaghti-Dehoi - Pargana Khohri dt., V.S. 1768/  
1711 A.D., dt., 1770/1713 A.D., dt., 1771/1714 A.D.

(Delhi)<sup>97</sup> Pargana Khohri was also captured by the Jat zamindars. The imperial Jagirdar lodged a complaint in the Mughal court that the Jat zamindar, Churaman Badan Singh and his allies had not deposited the land revenue of 75 villages in pargana Khohri and Pahari.<sup>98</sup>

Not enough data are available for the pargana of Hissar. The Gazetteers and Settlement Reports of 19th century show that in Hissar pargana the Kharif cultivation was more popular than Rabi.<sup>99</sup> The importance of Rabi crops was increasing constantly in the Nalee tract of this pargana. Rabi crops gained prominence in the Nalee circle due to the availability of water near the surface which made well irrigation possible.<sup>100</sup> Nalee tract of pargana of Sirsa, Hansi, Fatihabad and Hissar was rich in cotton cultivation.<sup>101</sup> In the Nalee tract the soil

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97. Fhirahshti-Dehai - Pargana Khohri, dt., V.S. 1768 to 1807/1711 to 1750 A.D.

Arsatha - Pargana Khohri V.S. 1773/1716 A.D.

Chithis - Pargana Khohri V.S. 1784/1727 A.D.

Chithis - Pargana Khohri, V.S. 1785/1728 A.D.

Chithis - Pargana Khohri, V.S. 1786/1729 A.D.

Chithis - Pargana Khohri, V.S. 1789/1732 A.D.

98. Ibid.

99. C.A.H. Townsend, Third Revised Settlement of the Hissar Distt., 1906-10, p.1.

100. Ibid., p.3.

101. C.A.H. Townsend, Hissar distt., op. cit., p.22; C.M. King, Final Report on Second Revision of the Regular Settlement of the Sirsa and Fazilka Tahsil, 1900-1904, Civil and Military Gazetteer Press, p.8.

was generally hard clay,<sup>102</sup> a soil suitable for cotton cultivation with enough water. Jowar was sown in the tract where the nature of soil was light.<sup>103</sup>

In the pargana of Sirsa where soil was sandy and depth of water was low, only rain-based Kharif crops were sown. Very little Rabi was sown in this circle because the winter rains were too scanty to permit successful Rabi cultivation.<sup>104</sup> Kharif crops were sown as soon as the rain fell.<sup>105</sup> In case of good rain-fall near the end of September Rabi crops were sown.<sup>106</sup> Due to lack of irrigation works a major part of Sirsa land remained uncultivated. The principal crops of Sirsa pargana were the Bulrush millet (Bajara) in the Kharif and a mixture of Gram and Barley (Bejhar) in the Rabi harvest.<sup>107</sup>

North-eastern belt:

The two annual crops were sown in the pargana of Karnal and there crops were known as "Sawani" for the

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102. C.A.H. Townsend - Hissar Distt., op. cit., p.1.

103. Ibid.

104. C.M. King, Sirsa and Fazilka Tahsil, op. cit., p.28.

105. Ibid.

106. Ibid.

107. Ibid.

autumn or Kharif crops and "Sarhi" or "Hari" for the spring or Rabi crops.<sup>108</sup> As soon as the rain fell the land was to be ploughed for the autumn crops, but after sowing it did not require much attention. But much attention was to be paid to the spring crops. The extensive input of labour in the Rabi harvest can be visualized by looking at the following table.

As shown in the table wheat Barley and Gaji needed equal number of ploughings before sowing as well as equal number of watering after sowing. Hand hoeing was not needed for these crops. Poppy was a crop which needed extensive care. It required 10 to 12 ploughing before sowing and watering after every 4th or 5th day. It was sown in the Assuhj (September-October) and was reaped in Chet (March-April).

In the northern tahseeldari of pargana Karnal where water was new the surface and the use of the Persian wheel was possible. Methi (Fenugreek) was sown with cotton and Maize.<sup>109</sup> Maize was the crop which needed plenty of water and a little fresh manure.<sup>110</sup> It grew

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108. D.C.J. Ibbetson, Karnal Distt., op. cit., pp.166-67.

109. Ibid., p.174.

110. Ibid., p.184.



Calendar of the Rabi harvest

Crops	No. of Ploughings	No. of Watering	No. of hand hoeing	When sown	When reaped
Wheat	4 to 8	4 to 8	0	Kartik & Mingsir (Oct., Nov. & Dec.)	Bysakh (April-May)
Barley	4 to 8	4 to 8	0	"	Chet (March-April)
Goji	4 to 8	4 to 8	0	"	Bysakh (April-May)
Gram	2	0	0	Bhadon (Aug.-Sept.)	"
Linseed	2	sown in sailabi	0	Assuhj (Sept-Oct.)	"
Mustard	8	3 to 4	1	"	Chet (March-April)
China	6	10 to 16	0	Phagan & Sawan (Feb.-March & July-Aug.)	Bysakh, Kartik, Mangsir (April-May, Oct., Nov. Dec.)
Kaguni	5 to 7	5 to 6	1	Chet, Sawan, Bhadon (March-April, Aug.-Sept.)	Bhadon, Assuhj (Aug.-Sept., Oct.)
Tobacco	4 to 5	15	3 to 5	Kartik (Oct.-Nov.)	Jet, Har (May, June, July)
Onion	4 to 8	16	3	Magh (Jan.-Feb.)	"
Carrot	4 to 6	3 to 4	0	Assuhj (Sept.-Oct.)	Chet (March-April)
Turnip	5	3 to 5	0	20th Bhadon to 10th Asuhj (Aug.-Sept, Oct.)	Mangsir to Magh (Nov., Dec. to Feb.)
Methi & Sinji	-	2 to 3	0	Kartik (Oct.-Nov.)	Phagan and Chet (Feb., March & April)
Poppy	10 to 12	Every 4th or 5th day	10 to 12	Assuhj (Sept.-Oct.)	Chet (March-April)

best in the light soil, well in sandy soil but it would not grow in very stiff soil.<sup>111</sup>

Bajara (Bullrush millet) was sown, as the first rain fell, in the sandy soil as it retained moisture for a long time.<sup>112</sup> Moth was also sown in light and sandy soil with the first rainfall.<sup>113</sup> Gram grew best in the stiffest soil and hardly at all in sandy soil.<sup>114</sup> The very stiff dakar fields where rice was grown, was ploughed up once after the paddy was cut, so as to break it up into large hard clads, in the crevices between which the Gram grew.<sup>115</sup> Sarson (Mustard) was generally grown with wheat or gram often in rows along the fields and took its chance with them.<sup>116</sup> It ripens in Phagan, the earliest of all Rabi crops except Toria.<sup>117</sup> Tobacco was sown in Magh or Phagan (February or March) and the plant got

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111. Ibid.

112. Ibid., p.187.

113. Ibid.

114. Ibid., p.190.

115. Ibid.

116. Ibid., p.191.

117. Ibid.

ready to cut in Jet or Sarh<sup>118</sup> (June or July). It was best grown in nice loamy soil neither too stiff nor too open.<sup>119</sup> Mandwa was grown in fairly stiff soil but chiefly in the Khadir and there only in a small quantity.<sup>120</sup> wheat was grown almost in every kind of soils, except the very stiffest where barley took its place.<sup>121</sup> Sugarcane grew best in fairly stiff loam and worst in sandy soil.<sup>122</sup> Jowar was sown in medium loam and it was not grown at all in very sandy soil.<sup>123</sup> It was very seldom manured or irrigated.<sup>124</sup>

Southern belt:

Wheat and Cotton were the main crops of this tract.<sup>125</sup> For wheat, land ought to be ploughed for five or six times. Crop was watered every twenty days or so getting some three or five waterings according to the character of

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118. Ibid., p.192.

119. Ibid.

120. Ibid.

121. A. Kensington, Settlement Report of the Ambala Distt. - 1893, Civil & Military Gazetteer Press, p.53.

122. D.C.J. Ibbetson, Karnal Distt., op. cit., p.158.

123. Ibid., p.175.

124. Ibid.

125. F.C. Channing, Land Revenue Settlement of the Gurgaon Distt., Central Jail Press, Lahore, p.52.

the winter rain and crop was reaped in the beginning of the Bysakh i.e. middle of the April.<sup>126</sup> Barley was sown at the same time or some ten days before wheat.<sup>127</sup> Land was ploughed once or twice and it could do with one or two fewer watering and it was rarely if ever weeded.<sup>128</sup> It was cut some fifteen days before wheat. Gram in the pargana of Gurgaon was sown with a drill in October or November before barley, after one or two ploughings. It was rarely if ever irrigated from wells nor was it weeded.<sup>129</sup> It was reaped about the same time as wheat. Double crop system was also in practice.<sup>130</sup> If the rain had been very heavy and the prospects of the Rabi were good, the Jowar was cut before it was ripe as to make room for the second crop.

In pargana Rohtak, cotton in artificial irrigated area was sown after a 'Palewar' (a period of 15 days) from Chet or Jet<sup>131</sup> (April or June). In rainfed lands cotton would often be followed by Gram and on the canal irrigated land by Moth and Masoor.<sup>132</sup> More often however

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126. Ibid., p.64.

127. Ibid.

128. Ibid.

129. Ibid., p.65.

130. Ibid., p.66.

131. Punjab Govt., Punjab Distt. Gazetteer, vol.III A, Rohtak Distt. 1910, Civil and Military Gazetteer Press, p.100.

132. Ibid., p.101.

the ground was allowed a fallow or given two fallows and than sown with wheat. In the areas irrigated by well both wheat and barley were probably sown without a preliminary watering if the well was not brackish. Indigo was also grown in the pargana Rohtak, but later on it vanished from the crop clander.<sup>133</sup> Gowar was grown as a fodder crop.

Besides cultivation cattle were also reared in large numbers in the pargana of Rohtak. The oxen of the villages around Beri and Jehazgarh had a special reputation, which was said to be due to the fact that the Nawab of Jhajjar kept some bulls of the Nagore breed (locally called Bondh) at a village Chuchakwas to improve the cattle breed of that area.<sup>134</sup> The quality of Haryana cattle/<sup>varied</sup> from tract to tract. The cattle of Jhajjar, Rohtak, Mehem, and Hansi were of the best size and quality.<sup>135</sup> The havier animals were found to the north of Rohtak (Mehem) and Hansi.<sup>136</sup> The cattle

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133. Ibid.

134. Santokh Singh, A cattle survey of Rohtak Distt. in Punjab - 1935, The board of Economic Survey - Punjab, p.1.

135. Ibid.

136. Ibid.

of Sampla were smaller than the cattle of Jhajjar.<sup>137</sup>  
 The cattle of Rohtak and Hansi due to their size and energy were more suitable for agricultural purposes than those of Hissar pargana.<sup>138</sup>

The peasants of this tract owned large herds of cattle and ordinarily sold some 30,000 bullocks annually at the fairs of Sirsa, Hissar and Georgegarh for export to the north and east.<sup>139</sup> Thus ordinarily the tract had a much large number of cattle than were necessary for its own agricultural requirements. The peasants reared cattle because a loss of even a large number of cattle was not so serious to the peasants as the loss of a single crop. For example, the value of the 1,50,000 cattle that had died in Gurgaon in 1877-78 was little more than 15 lakhs of rupees, but the loss due to the failure of crops in the same year must have been at least 50 lakhs of rupees.<sup>140</sup>

Crop rotation:

It has been argued by Dr. Harbans Mukhia and some other historians that crop-rotation did not exist in

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137. Ibid.

138. Ibid., p.2.

139. Ibid., p.6.

140. Ibid., p.9.

Medieval India. However if we review the functioning of agricultural structure of Haryana we find sources which show that crop-rotation in some parts of this region could have been possible.

The conditions required for crop-rotation in a country is the high fertility of the soil and lack of water scarcity which in turn ensures the fertility of the soil. The argument that can be put forward to support the feasibility of crop-rotation is that Indian agriculture in Medieval India was confined to the most fertile lands. It was because of the fertility of the land that Indian soil produced yield ratio of 1:12 in medieval period while the lands of European countries produced only yield ratio of 1:2 or 1:4.<sup>141</sup> Manure is also essential for the fertility of the land in order to practise crop-rotation. Manure can be available easily if cattle are reared in abundance. The Gazetteers and the Settlement Reports and various other documents explicitly show that cattle were reared in abundance in Haryana.<sup>142</sup> Since the fertile land and cattle for the purpose of manure were available, crop-rotation

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141. Harbans Mukhia, "Agricultural Technology in Medieval North India" in A. Roy and S.K. Bagchi, eds., Technology in Ancient and Medieval India, New Delhi, 1986, p.114.

142. Santokh Singh, A cattle survey, op. cit., p.1.

could be practised provided there was no scarcity of water. Thus the crop-rotation could be practised in the areas of heavy rainfall, wells, canals and lakes where water availability was not a problem.

In the western belt of Haryana cotton was sown in well irrigated area during March/April and in the rainfed areas in June/July. It began to bear in August/September and October/November respectively. Wheat, Barley and Gram were sown in the late November or early December and were reaped in the middle of April. Thus cotton could be rotated with Wheat, Barley and Gram.<sup>143</sup>

It is not too much to say that crop-rotation was practised if we explain the term "rotation" to mean the principles which helped a farmer in determining the requirements in soil constituents of the various kinds of crops. The farmer planted them in such order of succession that when one crop had exhausted the land of one of its elements another crop should be planted in its place next year which does not require that particular nutrient to ensure its growth and which moreover, by its own exuvie tends to restore to the soil the particular constituent of which it was deprived by the previous crop. In Cir-Sutlej regions like Haryana

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143. F.C. Channing, Gurgaon Distt., op. cit., pp.63-64.



Barley and Gram followed rice, Tobacco, followed cotton, sugarcane sometimes was grown after Maize.<sup>144</sup> Thus the rotation of crops commenced.

It was quite the exception for Barani land to be double (Dofasli) and it could be done only under very exceptional circumstances. When Bajara had been sown in Jet it ripened and was cut in Sawan and if there was rain, than Gram for Rabi was sown in the same land or when Kharif sowing had failed, but there was fair rain for Rabi sowing the Kharif was ploughed up and gram was sown.<sup>145</sup>

In the Hissar pargana of the western belt of Haryana cotton was rotated with some Rabi crops and after Rabi "Gowar" was sown, so that the leaves of Gowar became manure and prepared the soil for the subsequent Rabi crop.<sup>146</sup> The Rabi crop following Gowar would be wheat and in the next Kharif "Chari" or cotton would take place.

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144. Boden Powell, Economic Products of Punjab, 1868,

145. C.M. King, Hissar Distt., op. cit., p.168.

146. P.J. Fagan & C.M. King, Punjab Distt. Gazetteers, volume II A, Hissar Distt. and Loharu State - 1904, Civil and Military Gazetteer Press, pp.168-70.

Thus the rotation would continue.<sup>147</sup> Abul Fazl in Ain-i-Akbari mentions the crops at the Suba of Delhi Spring harvest includes Wheat and Barley and Autumn harvest includes cotton. On the basis of these arguments we can say that crop-rotation in medieval India could have been practised.

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147. Ibid.

## CHAPTER IV

### NON-AGRICULTURAL PRODUCTION AND TRADE

The social and economic structure of Medieval India was overwhelmingly based on agrarian economy. A major section of society was engaged in the agrarian production process and formed the most important component of the village society of medieval India.

The artisans and traders formed another important section of the village society. It is essential to study the role of artisans and traders in the village economy through non-agricultural production process in order to have a total view of the medieval Indian village society.

The peasants in the village did most of the work of agriculture proper and their wives carried out the household chore. But the work requiring special skill such as iron-smithy, carpentry, or leather work, weaving or dying or work meant for the whole village was performed by men of the caste whose special occupation it was and they were usually paid in kind.<sup>1</sup> Almost all the implements were made by the village carpenter, blacksmith and leather worker in return for their customary dues. The cost of

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1. J. Wilson, Final Report on the Revision of Settlement of the Sirsa Distt. in Punjab - 1879-83, Calcutta Central Press, p.180.

making and repairing various articles concerning agriculture was borne by the peasants. The zamindars had to pay only the cost price of the material used unless he provided it himself. Sometimes even the cost price of the material was not paid.<sup>2</sup> Barnier, Pelsaert and other European observers have suggested that the grandees freely exploited the artisans paying him "half the wage or nothing at all." That the cudgel and the whip - the long and terrible "Korrah" which hung at every "amir's" door were freely used to coerce artisans.<sup>3</sup>

Various sections of village society which were involved in non-agricultural production, manufactured several commodities for the consumption of the village as well as for trade.

Kumhar: In the Sirsa pargana of the western belt of the region under study, the "Kumhars" were partly engaged in agriculture but chiefly in potter's work, making bricks and earthen dishes and vessels of all sorts. They also kept donkeys and employed them in carrying grain and other goods for hire. A potter's

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2. Punjab Govt., Punjab Distt. Gazetteer, vol.II, Rohtak Distt. - 1910, Civil and Military Gazetteer Press, p.105.

3. Tapan Roy Chaudhary and Irfan Habib, Cambridge Economic History of India, vol.I, Cambridge Univ. Press, London, p.266.

dues were a "ser" per "mound" or on Sutlej, where cultivation was possible with the well water, three mounds per well or  $1\frac{1}{2}$  "tope" (measure) per plough for potter work and 4 "tope" per 12 mounds or  $7\frac{1}{2}$  "tope" per "Men" for carrying the grain.<sup>4</sup>

Chamar: All the leather work of the village was done by "chamars" or "Mochis". They also worked as labourers in the fields for wages in money or in kind. But in the pargana of Sirsa land was so plentiful that many of the Chamars were ordinary tenants, and had given up their ancestral profession. They became prosperous cultivators, just a little inferior to "Jats".<sup>5</sup> "Chamars" also did the weaving of blankets and coarse cotton clothes in the villages inhabited by Hindus. Their place as weavers was taken in Muslim villages by "Julahas" or as they were called by Punjabis "Paolis".<sup>6</sup> Chamars also made and mended shoes of high caste people. They also helped in fields and did "Begar" of the village such as fetching grass, putting up tents, carrying load etc. In return for this the Chamars got the skin and flesh of claven footed animals that died in the village while

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4. J. Wilson, Sirsa Distt., op. cit., p.106.

5. Ibid.

6. Ibid.

those of the camel and horse went to the "Churhas",<sup>7</sup> a caste below Chamars in the hierarchy of social status.

Lohars: All the iron work of the village was done by "Lohar" (blacksmith). Lohar received at harvest time one "ser" per mound of the total produce, sometimes limited to 25 "sers" per plough.<sup>8</sup> "Khati" (carpenter) was another artisan of the village and contributed to the self-sufficiency of the village society.<sup>9</sup> "Khatis" made various wooden implements of daily need but not cart and Persian wheel. The Khati's share for his work was one ser per mound. Besides, there were other artisans like "Maniar" the maker and seller of Bangles, "Raj" or "Minar", masons and brick layers, "Julaha" the weaver, "Nilyar" or "Rangraze" the dyers of cloth, "Khatik" the tanner of leather etc.

There is little reason to doubt that the bulk of the rural manufactures in this period, as earlier and later, were produced by the hereditary artisan castes bound to the dominated agriculturist castes by traditional ties of the client-patron relationship and collectively maintained like their fellow service caste groups.

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7. Ibid.

8. Ibid.

9. Ibid.

Heriditarily fixed share of the village produce constituted their main income.<sup>10</sup>

Haryana region during the 18th century had very few manufacturing industries. There were no manufactures or factories beyond the cotton ginning factories at Hansi. Bhiwani and Hissar pargana.<sup>11</sup> A large income was made by the sale of cattle in these parganas, a point that was not overlooked in the assessment imposed upon the peasantry. At Narnaul country shoes, silver buttons, nut crackers, and "payas" (legs) for bed were manufactured. All these articles were for local trade.<sup>12</sup> The "phulkari" or silk embroidery of the village maidens of Hissar and other parganas was considered excellent.<sup>13</sup>

Some manufactures in the villages of Karnal pargana in the North-eastern belt of Haryana were weaving in cotton and wool, soap making, making pottery and bricks and minor handicrafts such as the making of baskets and mats.<sup>14</sup> These were all manufactured by the people

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10. Tapan Roy Chaudhary and Irfan Habib, op. cit., p.279.

11. C.A.H. Townsend, Third Revised Settlement of the Hissar Distt., 1906-1910, p.3.

12. B.S. Nijjar, Punjab under later Mughals, New Academic Publishing Company, Jullundhur, p.223.

13. Ibid., p.226.

14. D.C.J. Ibbetson, Report on the Revision of Settlement of the Panipat tahsil and Karnal Pargana of Karnal Distt., Allahabad Pioneer Press, p.199.

themselves or by menials. The latter either providing the finished articles as part of their "Begar" or being paid for their work almost always in grain. In the city of Karnal several handicrafts were known for their great perfection, being relics of the days of the old cantonments. The city was particularly famous for shoe-making. Many thousand pairs of boots were sent to army regiments to all over the country. The city of Karnal was famous for the manufacture of copper and Brass vessels and skin Jars (Kupa) for holding "Ghi" and "Oil". These copper and brass vessels and skin Jars (Kupa) were exported from this city in considerable numbers. Apart from all these there also existed a glass foundry.<sup>15</sup>

Kalanaur town of Rohtak pargana in the southern belt of Haryana, at one time, was famous for its saddlery, made of bullocks hide and highly decorated by the insertion of strips of different colours. Dyeing was once a speciality of Jhajjar and some other tahsils of pargana Gurgaon.<sup>16</sup> These areas in fact were indigo producing areas once. During the 18th century its cultivation no longer held an important place in the crop-clander and

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15. Ibid., p.200.

16. Punjab Govt., Punjab Distt. Gazetteer, op. cit., p.130.



started declining. These areas were famous for indigo cultivation precisely because the ground water here was of brackish nature and land contained salt. The ground water, containing salt<sup>17</sup> was in fact essential for indigo cultivation and manufacture. As a mart, Agra owed much of its prominence to the indigo trade. The best indigo in the world grew in its neighbourhood and besides being sent to all parts of India it had an international market. Formerly it used to be taken to Lahore for sale to merchants from the Middle East. But with the opening of the sea borne commerce with Europe, Agra became the chief, if not the sole, emporium. The English concentrated on supplies from Gujarat and the Agra region, while the Dutch tapped the coromandel sources as well. The history of indigo highlights the price-responsive character of India's agro-manufactures. After the 1630s famine its output declined because foodgrain fetched higher prices and also because the producers of non-foodgrain crops had been among the first casualties. The evidence relating to coromandel also suggests that whenever there was a decline in demand, the producers of such crops quickly shifted to subsistence agriculture.

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17. F.C. Channing, Land Revenue Settlement of the Gurgaon Distt., Central Jail Press, Lahore, p.7.

The variety of indigo grown in Mewat including some parts of Haryana was for local consumption and various other markets in India.<sup>18</sup>

Later on when the indigo cultivation declined, the people of these areas started making salt with the brackish well water. Almost all the salt villages were within the pargana of Gurgaon, Rohtak and Rewari.<sup>19</sup> But those producing the best salt were in the Jhajjar pargana. Salt was generally classified into two kinds - the "Salambha" and the "Sultanpur".<sup>20</sup> The latter kind of salt was the best. "Salambha" salt was made in the "Noh" pargana of the southern belt which contained twelve salt villages, Malob, Ranika, Wuntaka, Bai, Kherla, Noh, Mangli, Salaheri, Firozpur, Audhar, Nizampur and Salambha.<sup>21</sup> The salt wells (Namak ka kuan) can still be seen at various places in the above-mentioned parganas. The "Sultanpuri" salt was made in the pargana of Faruknagar, Jharsa and Jhajjar.<sup>22</sup> Jhajjar pargana contained five salt making

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18. Irfan Habib, Agrarian System of Mughal India, Asia Publishing House, Bombay, 1963, p.72.

19. Boden, H. Powell, Handbook of the Economic Products of the Punjab, vol.I, 1868, Thomson Civil Engineering College Press, p.75.

20. Ibid.

21. Ibid.

22. Ibid.

villages, Sultanpur, Mubarakpur, Kaliawar, Zahdpur and Fatihapur.<sup>23</sup> There were altogether ten manufactures in the Māhal of Sultanpur, three of which were situated in the Gurgaon and seven in Rohtak pargana.<sup>24</sup>

As regard the villages in the Jharsa pargana producing Sultanpuri salt, it would appear that no notice was taken of the manufacture during the early 18th century, but during Begum Samroo's rule over the region she collected half an "Anna" per maund on the salt when manufactured and on its sale from 10 to 20 rupees on every Rs.100/- realized.<sup>25</sup> Table 1 shows the salt producing area for the Salambha kind.

Table 1

Name of the villages	Area producing salt (in bighas)
Nizampur	15
Malab	80
Noh	60
Dundoheri	1
Kherla	20
Untka	10
Salambha	4
Firozpur	2
Sallaheri	8
Adbar	1
Tain	1
Bai	5
Total	<u>207</u>

23. Ibid.

24. Ibid.

25. Ibid.

Besides the parganas of Gurgaon, Rohtak etc., pargana Rewari was also famous for some important manufactures. There was a large and important manufacture of hardware at Rewari town. Shoes were made at "Sohna". Glass bangles were also manufactured at Sohna. Iron vessels were made at Darapur and Tankri in Rewari pargana and there were the usual manufactures of coarse cotton cloth, and rough blankets but none of these industries except the hardware manufactures of Rewari were of any significance.<sup>26</sup> The most important industry in this pargana after that of agriculture was the manufacture of salt by the evaporation of brine raised from wells.

The north-eastern belt of Haryana produced "Sal ammoniac" or "Naushadar" for local consumption as well as for trade with other parts of the country."<sup>27</sup> "Sal ammoniac" or "Naushadar" had been manufactured for ages by the potters or "Kumhars" of the Kaithal and "Gula" tehsils of the Karnal pargana.<sup>28</sup> It was produced chiefly in the "Gula" tehsil and more than anywhere else at the village "Gumtallah".<sup>29</sup> The only village in which it was

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26. F.C. Channing, Gurgaon Distt., op. cit., p.61.

27. Boden H. Powell, Economic Products of Punjab, op. cit., p.89.

28. Ibid.

29. Ibid.

manufactured in the Kaithal tahsil was "Manus". It was sold by the potters at 8 'annas' per mound to the Mahajans who exported it to Bhiwani, Delhi, Farukabad and Mirzapur in the North-West provinces.<sup>30</sup>

Flexible sandstone, "Sang-i-Larzan" was obtained from the Kalyana hills in the pargana "Dadri" of the Jind territory.<sup>31</sup> Inferior marble "Kalai-Ka-Patthar" was also obtained from the pargana. "Kalai-Ka-Patthar" was a marble which took a good polish; nevertheless, it was much used for making the first quality of "Chunam" (lime).<sup>32</sup>

Traders and manufacturers gained a vital importance in the society of Haryana during the 18th century. Trade existed both in agricultural as well as non-agricultural products. Being one of the most fertile and nearest regions to the Capital (Delhi) Haryana had benefited the people of Delhi, through its trade. Delhi and various towns in Haryana had not only to be fed by the countryside but to be supplied also with raw materials for their manufactures. The raw materials brought into the towns were probably confined only to those required

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30. Ibid.

31. Ibid., p.35.

32. Ibid.

for the luxury trade or for the ultimate use of the urban population.

Apart from the inter-pargana trade Haryana's hinterland covered many important trade routes. Two such major routes which passed through Haryana region were from Surat to Gandhar via Panipat, Ambala, Lahore and Kabul and from Surat to Gandhar via Hansi, Hissar, Bhatnair and Kabul. The route via Kabul had for ever been a great commercial centre, a meeting place for merchants from Iran and countries to the north and a depot for goods entering the Punjab via the Khaibar pass and then down the Grand Trunk road to Lahore and further to Delhi via Panipat and Karnal in the Haryana region.

Trade of various parganas of Haryana with other parts of the Empire in various commodities supported the economy of the region considerably. Some of the articles like "metal", "Tobacco", "Drugs" and "spices" etc. were imported in the pargana of Sirsa from Delhi and Bikaner.<sup>33</sup> The Sirsa pargana had for many years produced a large quantity of "Ghi" (clarified butter) over and above its own requirements for export Northwards to Firozpur and eastward to Delhi.<sup>34</sup> It was sold

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33. J. Wilson, Settlement of Report of Sirsa Distt., op. cit., p.193.

34. Ibid., p.300.

to the richer classes or stored for sale and export. These traders of Sirsa pargana were called "Rains". According to one tradition "Rains" of Ghaggar were originally Rajputs living near "Uch" on the Panjnad near Multan. The ancestors of these "Rains" (Rajputs) disguised themselves as market gradeners. This trade was followed by "Arains" or "Kanbohs" of the neighbourhood. The ancestors from Uch came and settled on the Ghaggar in the Sirsa pargana and until the famine of 1816 Sambat (1759 A.D.). They held the whole of the Sotar or Ghaggar valley from Bhatnair upwards to near Tohana, being at that time in possession of 117, or according to some of 360 villages.<sup>35</sup> The famine of 1759 A.D. ruined many of them and as the Mughal empire decayed they were more and more exposed to the predatory attacks of their neighbours, the Bhattis. The famined 1840 Sambat (1783 A.D.) broke then altogether and drove most of them from the country to settle across the Jamuna, near Bareilly and Rampur.<sup>36</sup>

It seems that during the days of famine the grain from Bikaner was imported through the Ellanabad tehsil in the Sirsa pargana in exchange for sugar, clothes and

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35. Ibid., pp. 97-8.

36. Ibid.

metal vessels. The metal vessels might have been exported from pargana Karnal and sugar and clothes from further east. Sometimes foodgrains from the western belt of Haryana were exported also. The trade in grain consisted chiefly in the export of Barley, gram, and oilseeds from dry tracts towards Multan and Karachi and varied with the nature of harvests and demand in that direction.<sup>37</sup> Raw material like "Ghi" foodgrains etc. for cooking various kinds of sweets and foodstuffs were exported to various towns in Haryana and big cities like Delhi and Agra. We know that a variety of manufactured foodstuffs like "oil", "butter", "Ghi", salt and sugar were among the staples of the inter-regional trade. Of these "Ghi" was definitely a part of the daily diet of the urban poor in northern India and cooked food and sweets were in demand in all urban markets like Delhi where these goods were transported from Haryana. In describing Agra Manrique mentions "dainties" of all sorts in the numerous bazars and entire streets wholly occupied by skilled sweet makers. Lahore's brilliantly lighted bazars had a great number of occupied tents or cook-shops exhaling the aroma of spicy dishes and displaying large spits bearing the flesh of winged

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37. Ibid., p.194.



creatures.<sup>38</sup>

During the 18th century the external trade of Bikaner state in Rajasthan was flourishing and Rajgarh was famous as a trading centre. Various trading groups (Karvans) including some from Haryana came and stayed at Rajgarh for the exchange of goods.<sup>39</sup> Various commodities from Punjab and Kashmir following the trade routes of Bhiwani and Hissar went to Rajgarh.<sup>40</sup> Similarly various goods like Muslin, Indigo, Sugar, iron, and tobacco from the eastern countries passed to Rajgarh "Mandi" through the territories of Delhi and pargana Rewari.<sup>41</sup> Another route which catered to trade with other parts of the Mughal empire was from Bhiwani pargana to Pali, Jodhpur, Ajmer etc. The trading centre Sujangarh on this trade route had its advantage as a depot.<sup>42</sup>

Nuh area of the Gurgaon pargana, as we have discussed earlier, was famous for producing salt. The salt produced here was in demand in the North-western provinces, and the trade was chiefly carried in salt

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38. Tapan Roy Chaudhary & Irfan Habib, Cambridge Economic History of India, op. cit., p.264.

39. Gauri Shankar Ojha, Bikaner Rajiya Ka Itihas, Samvat, 1996, Ajmer, p.24.

40. Ibid.

41. Ibid.

42. see next page.

through Hodal, Kasi, Mathura to the markets of North-western provinces.<sup>43</sup>

In the north-eastern belt of Haryana trade also existed in agricultural produce. The pargana of Ambala in ordinary years was self-supporting and there was a considerable margin for export which could not at any rate have been lower than ten lakhs of maunds.<sup>44</sup> It was wheat which was principally exported and not the inferior grain. Maize was the staple food of the agricultural classes for six months of the year and after the spring harvest wheat and gram were mixed for consumption so long as wheat was cheap.<sup>45</sup> This trade with other parts of the country in various commodities like foodgrains, sugar, butter and salt was organised on peculiar lines by the famous caste of "Banjaras" who had a practical monopoly of this trade.<sup>46</sup>

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42. P.W. Powett, Gazetteer of the Bikaner State, 1874, Govt. Press, p.144.

43. F.C. Channing, Gurgaon Distt., op. cit., p.130.

44. Clem-G-Parsons, An Administrative Handbook of Ambala Distt., 1898, Civil and Military Gazette Press, p.85.

45. Ibid.

46. Irfan Habib, Agrarian System of Mughal India, op. cit., p.62.

Besides the external trade inter-pargana trade also played an important role in the economy of this region. Local trade in Haryana was very brisk. Some of the towns in Haryana had its indigenous industry having a great bearing on internal trade which depended much on the economic conditions of the people. Manufactures of different towns which were of great local use were changing hands from one village to the other. The potter's wheel, the spinner's spinning rod, the weaver's spindle everywhere in Haryana ran at full speed to meet the people's demand and the local merchants of this internal trade were equally active to cope with the situation. Among the commodities of trade silver cups, gold and silver buttons were exported from Narnaul.<sup>47</sup> Thin sheets of gold were wrapped round the silver to make gold wire, while pure bar silver, with an alloy of copper to stiffen it was used.<sup>48</sup> The wire was then used in the manufacture of gold and silver lace, which was said to be superior to that made in Delhi, though it was not so light as the best quality wire.<sup>49</sup>

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47. B.S. Nijjar, Punjab Under Later Mughals, op. cit., p.222.

48. Ibid.

49. Ibid.

The town of Podwal in Gurgaon pargana was an important centre of a fair agricultural trade. It contained a large proportion of brick-building. The town of Firozpur on the other hand had good Bazars and a considerable local trade, especially in cotton, was conducted from here.

In the pargana of Rohtak, local trade was largely conducted by the villagers themselves and especially by Jats.<sup>50</sup> These people in the hot weather when the bullocks would otherwise be idle, started with their cart, brought salt from "Bhiwani" or Bajara or Moth from Hansi and Hissar and exchanged it for "Gur" or cotton in the villagers. They carried the goods obtained through exchange to the high lands and further exchanged them with gram and finally sold the Gram at Karnal or Panipat either buying sugar to carry it to their respective places or they carried goods for hire. Traders from Kaithal and Patiala would bring down gram or "Ghi" on pack bullocks and cross into the Doab where they brought oil or oilseeds and then return and exchange them for "Gur" to take home. Some of the articles like metals, tobacco, drugs, and spices were imported from Delhi and Bikaner. Articles, quantity and income from trade with

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50. D.C.J. Ibbetson, Karnal Distt., op. cit., p.202.

Doab is shown in the table given below.

Table 2: Trade coming from Doab

Goods	Maunds	Custom dues (in Rs.)
Sugar	275017	87082
Gur	242546	24554
Cloth	167880	5183
Leather	-	1502
Safflower	3248	2820
Miscellaneous	-	3580
Total	688691	124721

Table 3: Trade passing into Doab

Goods	Maunds	Custom Dues (in Rs.)
Oilseeds	56616	8794
Cotton	20520	10260
Salt	56107	90057
Salammoniac	2583	2067
Iron	4766	3400
Timber	-	5200
Wool	641	481
Miscellaneous	-	3008
Total	141233	123261

The above given table 2 shows that various goods which were not manufactured in Haryana region were imported from the Doab region. The goods like cloth was not produced in Haryana. Only coarse cotton cloth and rough blankets were made at some centres of Pargana Rewari and in the north-eastern belt of Haryana. Thus the cloth for the consumption of the people of this region

as well as for export to some of the territories of Rajasthan like Rajgarh and Bikaner, was imported from the Doab country. Besides cloth, sugar Gur, leather etc. were also imported from Doab. Various commodities produced in Haryana were exported to Doab like oilseeds, cotton, salt, raw wool etc. The raw wool might have been produced in the western belt of Haryana, as the peasants here reared camels and sheep in abundance.

This inter-pargana trade may be called purely rural commerce. This trade was carried on in various commodities as we have discussed earlier like sugar, oil, salt etc. This trade was carried on by professional traders like Banya, Aora or Rora and Khatri etc. as well as by peasants themselves in the off seasons. Though this inter-pargana trade augmented the revenue paying capacity of the peasants involved in it, they had to part with their produce in lieu of land revenue and in such cases it was the potentates, the faujdars or their agents who must have arranged for its sale. As we know land in Haryana region was assessed under Batai Jinsi and Zabti system, the peasants had to sell the produce of the area assessed under zabti system to pay revenue in cash, and there he had to sell it himself. This he might have often done by carting his produce to

the local market or the town. Or in the case, at any rate, of high grade crop like indigo he might be approached in the villages by merchants interested in the trade. But it is possible that a very large number of peasants were not able to reach the open market at all, being compelled to sell on contracted terms to their creditors. Whether the creditors were merchants or the village money-lenders the result was always to depress the price received by the peasants. However it was not as if the peasants not bound in this manner, were able to obtain anything like a fair return. Their urgent need for cash to pay the revenue and keep themselves alive, forced them to sell as soon as the harvest came into their hands while the merchants could usually afford to wait.

During the 18th century Haryana region passed through what might be called an intermediate economy which functioned not at the level of Bazars of the large towns nor in the village periodic marts (hattis) where peasants exchanged petty commodities amongst themselves but in the fixed gentry seat (Qasbah) and the fairs organized from time to time. It were the traders and manufactures who flourished in this intermediate economy.

Attendance in "fairs" or "Melas" which combined devotion and amusement constituted one of the few pleasures of

the ordinary peasants. Chief among the fairs of Gurgaon pargana was that of the Goddess of small pox, "Massani", whose temple was located in Gurgaon town.<sup>51</sup> A small "Mela" took place there every Thursday except in the month of "Sawan" perhaps on account of the busy season of sowing. In the Rewari pargana at the village "Baroda" a fair was held on the 26th of "Chait".<sup>52</sup> Besides this, a largely attended fair in honour of Devi (Goddess) was held twice a year at Beri on 7th and 8th of "Chait" and "Sudi-Asoj". In Gohana town of Rohtak pargana a fair was organized from 9th to 13th Rajab in honour of Sultan Farruk Hussain.<sup>53</sup> Similarly two fairs for the sale of cattle and various other commodities took place at Jahazgarh in September and March. These fairs were also a source of income to the surrounding villages who sold fodder there. These fairs were immediately succeeded by a donkey fair of Beri and by a cattle fair of "Dujana" in the pargana of Rohtak.<sup>54</sup>

This intermediate economy of Haryana region must have increased the revenue paying capacity not only of

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51. F.C. Channing, Gurgaon Distt., op. cit., p.38.

52. Ibid.

53. Punjab Govt., Rohtak Distt., op. cit., p.67.

54. Ibid.



the peasants but of traders and artisans as they were also taxed by the state officially till Emperor Aurangzeb abolished various cesses. Aurangzeb gave orders for the remission of the "Rahdari" (Toll) which was collected on every highway (Guzar) frontier and ferry, and brought in a large sum of revenue to the state. He also remitted the "Pandari" a ground or house cess, which was paid throughout the imperial dominion, by every tradesman, dealer, the butcher, the potter, the green grocer, the draper, jeweller and banker. Other cesses, lawful as well as unlawful as the "Sar-Shumari" (Census), "Buz-Shumari" (a tax on goats), "Bar-qadi" the "Chari" (grazing tax) of the Banjaras, the "Tuwana" the collections from the fairs held at the festivals of Muhamdan saints, at the "Jatras" or fairs of the Hindus, held near temples, throughout the country far and wide, when lakhs of people assembled once a year and where buying and selling of all kinds took place. The taxes, on "spirits" on "Gambling houses", on "Brothels", the fines, thank-offerings and the fourth part of debt recovered with the help of magistrates from creditors. These and other imports nearly eighty in number which brought in crores of rupees to the public treasury, were all abolished throughout Hindoostan.

Although these taxes were remitted and orders were issued strictly prohibiting their collection, the avaricious propensities of men prevailed, so that with the exception of the "Pandari" which being mostly obtained from the capital and the chief cities, felt the force of abolition, the royal prohibition had no effect, and "faujdars" and "Jagirdars" did not withhold their hands from these exactions. Firstly because throughout the imperial dominion in the reign of Aurangzeb and after no fear and dread of punishment remained in the heart of Jagirdars, Faujdars and zamindars and secondly because the revenue officers through inattention or want of consideration or with an eye on profit contrary to what was intended, made deductions (for these cesses) from the "tankhwah" accounts of these Jagirdars. Thus the Jagirdars under the pretext that the amount of these cesses was entered in their "tankhwah" papers continued to collect the "Rahdari" and many others of the abolished imports and even increased them. Since no enquiries were made, the zamindars also extracted more money on roads within their boundries than what has collected on roads under loyal officers.<sup>55</sup>

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55. H.M. Elliot and Jhon Dowson, History of India as told by its own historians, vol.VII, Kitab Mahal Pvt. Ltd., pp.274-78.



During the 18th century the Jagirdars and other administrative officials exploited the traders and merchants of this region by exacting certain cesses which had been abolished by the imperial regulations. And they exacted a bigger amount of money in the form of cesses than what was legal according to the imperial regulations. After its reimposition during the 18th century when the decline of the Mughal Empire started, the peasants, largely under the leadership of zamindars rose in arms against the imperial rule and this created insecurity for the traders.

On the basis of available sources it can be argued that sophistication in the agricultural equipments, introduction of new crops, more and more cultivation of cash crops at a time when prices were going up, must have improved the economic condition of the peasants, and must have helped the trade to flourish. The manufacturing sector in Mughal India on the other hand was certainly not stagnant. The expansion of the domestic and foreign markets and rising public expenditure on urban developments, public monuments and army, suggests an upward trend in the output of trade.

These factors in turn should have stabilized and strengthened the trade activities in this region. But it seems that it did not happen because the political disorder during that time had an adverse effect on trade.

The zamindars had been in intermittent revolt against Mughal suzerainty. In 1779 A.D. when twenty years of "Shah Alam's" reign had elapsed, in every corner of the kingdom people aspired to exercise independence. Allahabad, Oudh, Etawah, Shukohabad and the whole country of the Afghans (Rohillas) were in the possession of the Nawab Wazir Asafu-d-daula and the whole country of Bengal had been subjected by the strong arms of the 'Firingis'. The country of Jats was under "Najaf Khan" and the Dakhin was partly under Nizam Ali Khan and party under Marathas. The Sikhs had almost the whole suba of Punjab, Lahore and Multan. Haryana was subject to the plundering activities of Sikhs, Bhattis and Marathas. The pargana of Hissar and the northern belt of Haryana was perpetually over-run by the Sikhs during the 18th century despite the resistance of the combined forces of Bhattis and imperial forces. The Marathas during this period brought forcibly under their subjection the territory of the Dakhin and the provinces of Gujarat and Malwa and carried the process of subjugation to such a pitch as to pillage and lay waste the cities, towns and village around Agra and Delhi and to leave the good name and property of none, whether high or low, unmolested.<sup>56</sup>

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56. Ibid., vol.VIII, p.73.

In this state of political disorder the traders and trade routes became more and more exposed to the predatory attacks of rebel zamindars and other invaders like Bhattis, Sikhs, and Marathas. The decline in trade can be perceived from the fact that the traders during 18th century started deserting the Haryana region partly due to the effect of famine and partly due to the political disorder and trade insecurity. Due to the political disorder in the Eastern Rajasthan the traders of pargana Noher had migrated to the western belt of Haryana<sup>57</sup> and from their they migrated to settle across the Jamuna near Bareilly and Rampur.

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57. Kagad Ri Bahi, Bikaner, No.47, Samvat 1896, p.167.

## CHAPTER V

### CONCLUSION

Haryana region due to its vital strategic and economic significance began to attract the attention of the central authority ever since the establishment of Delhi Sultanate. A survey of the economic developments of Haryana would show that changes in its economic life were not as swift as in political life. But the economy too changed initially at a slow pace and fairly rapidly in the century under review.

As discussed in chapter III agricultural techniques and practices, essential for the development of agriculture, acquired a good deal of sophistication during the eighteenth century, particularly in the substitution of new crops for old. The peasants were clearly responding to the demands of the market for the dominant pattern indicated the growing of cash crops in place of foodgrains. The peasants knew where their advantage lay and were willing to alter the mode of labour and capital investment to increase the advantage.

It would appear from the evidence used in this dissertation that inspite of political disorder during the eighteenth century in Haryana agricultural production and trade did not necessarily decline. On the other hand,

sophistication in the agricultural techniques took place. The area under cash crops was expanding and developments were taking place in non-agrarian field also.

These developments in agrarian as well as non-agrarian economy could not be sustained without the extension of zabti system at the expense of the batal area. This could not have been feasible unless it found enough market within and outside Haryana region. Agricultural and non-agricultural produce had its markets outside Haryana region as we have discussed in chapter III. The people of Haryana shouldered the responsibility of providing foodgrains and other commodities for the consumption of the nobility and other inhabitants of Delhi. Various goods from Haryana region were supplied to the market of Delhi and to some extent the market of Agra. On the face of it, the growing emphasis on cash crops suggests rising urban demand; however, a definitive statement in this regard must await a more detailed study of pattern of trade in the region.

If the political disorder caused by intermittent revolt of zamindars (Bhomyas) and peasantry against Mughal suzerainty did not necessarily lead to the decline of agricultural production and trade it might still have put a limit to the expansion of trade. In other words it might be a worthwhile enterprise to speculate whether

agriculture and trade could have registered a more impressive growth, given conditions of stable law-and-order. It is however safe to say that the economy of Haryana region was predominantly agrarian. Non-agrarian economy, though it existed, was a marginal one and did not lead to the growth of large towns. The trade did grow but it was practised at the level of Qasba only.



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