CHAPTER II
CHAPTER - II

AGRICULTURAL PRODUCTION

The archival sources of eastern part of Rajasthan like Nirkh Bazar and Arsattha provides the information of agricultural production. Documents Nirkh Bazar throws light on the market rate of agricultural production of daily transactions. It also included agricultural and non-Agricultural Production. Where as in Arsattha revenue record an attempt has been made to highlight the agricultural production in the light of these documents.

The unit of assessment was Taka and Ser. Two crops Rabi and Kharif are important for the study of agricultural production. They were also called Unaloo and Sialoo crops in eastern Rajasthan. The following table provides information about production of different Rabi and Kharif crops in villages of pargana Sawai Madhopur in the early 19th century.

Pargana Sawai Madhopur

V.S 1861/ 1804 A.D

Jama-Hal-Sialoo (Kharif), and Unaloo (Rabi) Mal-ijara

<table>
<thead>
<tr>
<th>Mauja (village)</th>
<th>Sakh sialoo (kharif)</th>
<th>Sakh Unaloo (Rabi)</th>
<th>Total Production</th>
</tr>
</thead>
<tbody>
<tr>
<td>Khado Jagdeep</td>
<td>178</td>
<td>153</td>
<td>331</td>
</tr>
<tr>
<td>Jamul Kheda</td>
<td>835</td>
<td>515</td>
<td>1350</td>
</tr>
<tr>
<td>Jehdavta</td>
<td>996</td>
<td>285</td>
<td>1281</td>
</tr>
</tbody>
</table>

1. See Arhsattas of various Parganas that gives wide descriptions about two above mentioned Unaloo and Sialoo crops.
2. This table has been prepared from the Arsattha, Pargana Sawai Madhopur Jama-Hal-Sialoo and Unaloo mal-ijara, V. S. , 1861/ 1804 A.D. pp. 5- 9
<table>
<thead>
<tr>
<th>Location</th>
<th>Population</th>
<th>Population</th>
<th>Total Population</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kuchahro</td>
<td>1575</td>
<td>810</td>
<td>2384</td>
</tr>
<tr>
<td>Pahdali</td>
<td>560</td>
<td>610</td>
<td>1170</td>
</tr>
<tr>
<td>Seedolpe</td>
<td>871</td>
<td>715</td>
<td>1586</td>
</tr>
<tr>
<td>Masee Khedo</td>
<td>555</td>
<td>155</td>
<td>710</td>
</tr>
<tr>
<td>Padago</td>
<td>1125</td>
<td>396</td>
<td>1521</td>
</tr>
<tr>
<td>Ubi-Biharkho</td>
<td>1031</td>
<td>410</td>
<td>1441</td>
</tr>
<tr>
<td>Vilopagu</td>
<td>1276</td>
<td>734</td>
<td>2011</td>
</tr>
<tr>
<td>Vamori</td>
<td>390</td>
<td>35</td>
<td>425</td>
</tr>
<tr>
<td>Mpapari Amli Khada</td>
<td>31</td>
<td>69</td>
<td>100</td>
</tr>
<tr>
<td>Kutal Purag</td>
<td>400</td>
<td>256</td>
<td>656</td>
</tr>
<tr>
<td>Vadi</td>
<td>1501</td>
<td>596</td>
<td>2096</td>
</tr>
<tr>
<td>Jeedamur</td>
<td>1256</td>
<td>410</td>
<td>1666</td>
</tr>
<tr>
<td>Jalpakhedi</td>
<td>290</td>
<td>130</td>
<td>420</td>
</tr>
<tr>
<td>Dhigla</td>
<td>401</td>
<td>335</td>
<td>736</td>
</tr>
<tr>
<td>Umoda</td>
<td>675</td>
<td>280</td>
<td>955</td>
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<tr>
<td>Ujari</td>
<td>665</td>
<td>435</td>
<td>1100</td>
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<td>Lodhipurang</td>
<td>220</td>
<td>140</td>
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<td>Etavo</td>
<td>921</td>
<td>508</td>
<td>1429</td>
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<tr>
<td>Atangee</td>
<td>1471</td>
<td>1314</td>
<td>2785</td>
</tr>
<tr>
<td>Khalo</td>
<td>50</td>
<td>20</td>
<td>70</td>
</tr>
<tr>
<td>Dashgu</td>
<td>695</td>
<td>275</td>
<td>970</td>
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<td>Mau</td>
<td>675</td>
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<tr>
<td>Hidvad</td>
<td>834</td>
<td>25</td>
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<tr>
<td>Asvamdlave</td>
<td>495</td>
<td>810</td>
<td>1305</td>
</tr>
<tr>
<td>Manser</td>
<td>836</td>
<td>615</td>
<td>1451</td>
</tr>
<tr>
<td>Khadvujado</td>
<td>1621</td>
<td>470</td>
<td>2091</td>
</tr>
<tr>
<td>Khadkhurhagu</td>
<td>566</td>
<td>140</td>
<td>206</td>
</tr>
<tr>
<td>Khohagu</td>
<td>245</td>
<td>270</td>
<td>515</td>
</tr>
<tr>
<td>Ajvmuratam</td>
<td>18</td>
<td>6</td>
<td>24</td>
</tr>
<tr>
<td>Khitarpur</td>
<td>26</td>
<td>6</td>
<td>32</td>
</tr>
<tr>
<td>Neemly</td>
<td>24</td>
<td>14</td>
<td>38</td>
</tr>
<tr>
<td>Madvo</td>
<td>21</td>
<td>21</td>
<td>42</td>
</tr>
<tr>
<td>Seloni</td>
<td>83</td>
<td>41</td>
<td>124</td>
</tr>
</tbody>
</table>
Kharif crops consisted of sugarcane (varh) cotton (van), indigo, tobacco etc. Food crops of Kharif are mainly jowar, bajra, makka (maize), etc. and pulses of moth, urd, mung, chhola etc.3

Rabi crops also consisted of cash crops and food crops, cash crops were tobacco, opium, oil seed, like mustard etc., and food crops were wheat, gram, barley, sugarcane, baijhri, gojai and gurchani etc.

FOOD CROPS

Wheat:

Wheat was the chief Rabi crop. It was chiefly grown in Kota, Bundi, Chittor, Udaipur, Jaipur, Torawati, Sirohi and the fertile belt around the Luni river. In the sandy soil of Jaisalmer, Bikaner and Jodhpur was sparse production. The principal varieties of wheat were Katha⁴ (superior quality) and Bajya⁵ (inferior quality). Wheat was of two kinds, Piwal and Sewaj. The former was grown on lands attached to wells and was irrigated; if irrigated by saline water, it was called kharchia and if by sweet water, mithania – the first variety being considered the better. For wheat soil was prepared in the most careful manner during the rainy season by being repeatedly ploughed and sometimes watered once. Sowing began around the middle of October. The crop usually took from five to six months to come to maturity, and required four or five

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Watering;\textsuperscript{6} Wheat was reaped with a sickle and collected into bundles, and as the crop is usually very dry when harvested, it can be threshed almost at once.

\textbf{Gram:}

Like wheat, gram was also an important \textit{Rabi} crops. It was produced in Kota, Bundi, Jhalawar, Udaipur and some parts of Jaipur territory.\textsuperscript{7} It was also produced in north-west Rajasthan where irrigation facilities were available, when gram was sowed with barley, it was called \textit{bejhar}.\textsuperscript{8} The land was ploughed four times before the seed is sown in October, and was then harrowed once; if rain falls in December and January, a fine crop was almost a certainly, but there was always danger of damage by frost, and lightening was supposed to be injurious if the pulse be in blossom. The Gram ripen from February to April, was reaped with a blunt sickle, and was generally uprooted; the grain was being split and used as \textit{dal} and the fine chief making an excellent fodder.

\textbf{Jowar:}

Jowar was the chief crop of \textit{kharif}. It was extensively grown in South-east Rajasthan, i.e. Kota, Bundi, Udaipur, Chittor and Banswara, where mostly hard soil was available. In these parts, Jowar was the staple food of the people of lower classes.\textsuperscript{9} It required a stiffer soil and a greater amount of rain than \textit{bajra}. It was sown between the middle of July and the end of August, and was harvested in October and November. When the crop ripened, the heads were

\textsuperscript{6} Brij Mohan Jawala, "\textit{Socio Economic Condition in Rajasthan}", Jodhpur, 1992, p. 44.
\textsuperscript{7} \textit{Nainsi-ri-khyat}, 1, pp. 42 - 114.
\textsuperscript{8} \textit{Bhandar} No. 14, \textit{Basta} No. 13, V.S. 1887/1830 A.D. Kota Records.
\textsuperscript{9} \textit{Trade and Commerce}, op. cit., p. 44.
cut off and the *karab* (stalks) were carefully stacked and subsequently given to cattle; if owing to insufficient rain, the Jowar is not thriving well the stalks were often cut while green and stored for fodder, called, *chiptu* which used to fetch a better price than *karab.*

**Maize:**

*Maize* was another important crop of *kharif.* It was produced in all the parts of the Rajasthan. But in north-west Rajasthan, it was grown extensively. Like Jowar, it was eaten mostly by the poor people. Maize was an irrigated crop, generally grown on lands attached to wells. The field was ploughed two or three times before the seed was sown broadcast in July or August, but a little early maize was often grown as fodder for the cattle. The crop used to ripe in about two months. The cobs (*dunda* and *makkia*) were picked off, stripped, dried in the sun, and beaten with sticks to separate the grain, and unripe ones were often roasted and eaten.

**Barley:**

*Barley* was a *rabi* crop. It was produced in the whole of Rajasthan. Barley was grown along with gram it was called bejhar. Like Jowar and Bajra, Barley was also the food of the common men. Barley did not require so rich a soil as for the cultivation wheat. It requires a little water for irrigation.

**Rice:**

*Rice* required much water for its proper cultivation. The water logged areas were most suitable for its growth; therefore, it was chiefly grown in Kota.

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Udaipur, Bundi, Sirohi, Jaipur and Sadari regions.\textsuperscript{11} In Kota a special kind of rice called tulsi was grown.\textsuperscript{12} Similarly in Jaipur a special kind of rice called \textit{kamod} was produced. However, rice was not cultivated in Rajasthan in much quantity.

**Bajra (Millet):**

Bajra was an important \textit{kharif} crop. It was sown with the first fall of sufficient rain. It used to take from seventy to ninety days to ripen. The stalks, called \textit{kharia}, are \textit{saltish} and are consequently sparingly use as fodder, but are suitable for thatching huts. The crop was sometimes grown alone, but more commonly mixed with moth or mung.

**CASH CROPS**

**Opium:**

It was cultivated in various parts of Rajasthan, especially, Mewar and Kota (Harauti).\textsuperscript{13} In former, opium was cultivated extensively from where it was exported to China in 18\textsuperscript{th} century.\textsuperscript{14}

**Tobacco:**

Tobacco was grown, though on a small scale, in various parts of Rajasthan. The territories of Kota and Jaipur were renowned for it.\textsuperscript{15}

\begin{flushleft}
\textsuperscript{11} Nainsi-ri-Khayat I, pp. 42-114.
\textsuperscript{12} Bhandar No. 14, Basta No. 63, V.S. 1854/ 1797 A.D. Kota Records.
\textsuperscript{13} James Tod, “\textit{Annals and Antiquities of Rajasthan},” Vol. II, Calcutta, 1916, p. 545.
\textsuperscript{14} Ibid., p. 547.
\end{flushleft}
**Indigo:**

Indigo, which was largely used for washing and bleaching ordinary cotton to a pure white colour, was produced in south east Rajasthan. The important centres of its production were Hindaun, Bayana and Kota. In medieval time superior quality of Indigo was produced in Bayana. As Tavernier writes, it was in the form of round balls. It was exported to countries outside India.

**Sugarcane:**

Like rice, sugarcane also required for its cultivation exceedingly moist soil and moderate temperature. Since Rajasthan had a dry climate, the area of its cultivation was restricted. The main centres of its production were Jaipur, Kota, Bundi and Sadari. From the juice of sugarcane which was obtained by crushing the cane between the heavy rollers, gur (unrefined sugar) and sugar was prepared.

**Cotton:**

Cotton was an autumn crop. It was sown at the end of May or the beginning of June. It needed irrigation and manure. The crop was harvested in November, December, or even later. For its production black soil was needed. The main centres of its production were Kota, Udaipur and Jaipur. In Jaipur,

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as Tod writes, cotton of excellent quality was produced in abundance in various
districts, particularly in Malpura.\textsuperscript{21} We have enormous information about the
production of cotton in \textit{Nirkh Bazar} documents from all \textit{parganas} of Jaipur
during 19\textsuperscript{th} century.

**MEANS OF IRRIGATION**

Eastern Rajasthan was predominantly an agricultural and a pastoral
state. Since the means of irrigation were limited, cultivation depended mostly
on the precarious rain. If monsoon was delayed or rainfall was insufficient and
unevenly distributed, the \textit{kharif} harvest was damaged and the \textit{Rabi} harvest was
affected. In this condition, agricultural production was thus, reduced to a
gamble that is why in Western Rajasthan, where desert economy prevailed, the
number of crops sown was very little in number with low graded crops.\textsuperscript{22}
However, our region of study comparatively, was placed in context of good
number of crops. But inquiry and curiosity about the rainfall in the \textit{pargana}
and village continued which is revealed by a large number of \textit{chitthis}.\textsuperscript{23} One
can infer about the rains from the letters addressed to \textit{diwan} by the \textit{pargana}
officials providing day to day details about the frequency of rains in their
respective \textit{pargana}.\textsuperscript{24} Efforts were made to bring more and more land under
cultivation. Every attempt was made to cultivate the most fertile land i.e.
\textit{polach} in into. In addition, \textit{banjar} and fallow land was to be brought under

\textsuperscript{22} Peasants, Artisans, and Entrepreneurs: Economy of Marwar in the seventeenth century, op. cit.,
p. 61.
\textsuperscript{23} See various \textit{Chitthis} for further information.
\textsuperscript{24} \textit{Ibid.}
cultivation. Every effort like sanctioning the agricultural loans through *mahajans* was made, *pattas* at concessional rates were granted to the *raiyat*. Attractive terms were offered to cultivators who were prepared to come and settle in villages, which had been ruined or desolated due to scarcity of rains.

In pre-modern Rajasthan, primitive techniques were applied for irrigation. It was done through *kuchha* and *pucca* wells, *talabs*, *nadi*, *tanks* and *nalas*. The rainwater generally filled *talabs* or ponds. We also have the reference of irrigation through *bali* and making *bindhis* i.e. small dams. For 17th & 18th centuries, *taqsim* papers provide us very significant information regarding the area covered under wells, tanks, *talabs* and *nalas*. During 17th century in *pargana* Dausa, there were 513 wells out of which 473 *kuchha*, 95 *pucca* and 9 out of *Pucca* wells were being equipped with *dhenkli* i.e. wooden scoop for lifting water. The second common method used for lifting water was the *charas*, in which water was lifted through a leather bucket attached to a rope drawn over a pulley by a yoke of oxen. There is no reference to the Persian wheel in the 18th century documents. We have many references of *baoli* (steps well) in *chitthis*. A large number of *baolis* are still available in whole of Rajasthan. The water from such *baoli* was used for drinking purposes as well as for irrigation.

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25. See various *chitthis* and *taqsim* of 17th and 18th century.
In medieval times, wells were the main source of irrigation. It was only in Eastern Rajasthan that wells were used for irrigation purposes. In western Rajasthan they were too deep to serve this purpose. Hence, they were used only for the supply of drinking water. For drawing out water from the wells the peasants used ‘charas’ or leather bucket pulled by two bullocks. Efforts were made in some states to introduce the Persian wheel but it was more costly and too heavy to a pair of ordinary bullocks, and therefore, did not become popular.

The other sources of irrigation were lakes and tanks. There were a number of tanks scattered all over the Rajasthan especially in Eastern Rajasthan. The moist bed, fertilized by alluvial deposits, is cultivated as the water recedes. The tanks help the wells by raising and maintaining the level of sub-soil water through percolation for some distance around them an effect which is perceptible even in years of drought when the bed of the tank is empty.

The relevant sources of irrigations in Rajasthan were river beds. Similarly the parts of a river bed exposed on either side, when water settles down in October or November, were used for sowing summer crops like barley and wheat. Petty tanks full of water were used for cultivating.

In the second half of the 19th century, (in about 1867) rulers of various Rajputana states were advised by the British government to provide some funds for constructing tanks and dams and to establish Public Works Departments in

31 Ibid, p.165.
their states. As it was in the interest of the rulers to undertake such construction; they readily accepted the advice. Almost in every state where geographical conditions were favourable, construction and repairing of tanks was readily undertaken (1870) A.D.

The Jaipur State built many useful and productive works. At a distance of about five miles from the Jaipur city Bhau Sagar, a tank named after one of its old rulers, was constructed. Its water is led by channels to a distance of about 7 miles and irrigated a very large area of land under cultivation. In 1870 sanction was given for the construction of Ram Garh reservoir. When full, it covers an area of 20 sq. miles and contains 22,000 million cubic feet of water and irrigates 24,000 acres of land. In 1897 one hundred and twenty-eight irrigation works had been completed and four were in progress. In 1873-74 the expenditure of Jaipur state on irrigation amounted to Rs.72,259. During 29 years i.e. from 1868 to 1897 the total expenditure on irrigation amounted to Rs. 43,17,769/- and the net revenue realized during the same period was Rs.36,61,985/-. Thirty-five new village had grown under the tanks which in one year yielded a revenue of Rs. 43,468/- the total irrigated area increased from 2,851 bighas to 1,12,137 bighas. From the year 1898 onwards many canals were remodeled. Besides, the rulers were quite liberal in advancing money to cultivators for the construction of wells. By 1947 the wells supplied water to 77

32. Administration Report on Rajasthan by the Agent to the Governor General, London Year 1868-69, p. 13.
33. A.R.R. year 1869-70, p. 69; see also, Malti Saxena, p. 36.
34. Political Administration of Rajputana State 1873-74, p. 94.
percent of entire irrigated land while tanks and their canals supplied water for 23 percent of it.  

A proper irrigation policy was commenced after 1860, when British government advised the Rajput states to concentrate all available money, manpower and other resources on the scientific reconstruction of ancient works. Many tanks were repaired in several states of Rajasthan and a few new ones were constructed.

After the great famine of 1900, a Commission was appointed by Lord Courzon, known as the Indian Irrigation Commission to devise a scheme for the fullest utilization of the water of India for irrigation as a protection against famine, under colonel Sir Colin C. Scott Moncriffe, who visited Rajputana explored the possibilities of irrigation and gave suggestions for future expansion of irrigation facilities; and the native states were advised to act accordingly. The position of irrigation and Jaipur at the turn of 20th century was as follows. 45 square miles were irrigated from canals; 20 sq. miles were irrigated from tanks, 342 sq. miles from wells and only 29 sq. miles from other sources. It means total irrigated area was 436 sq. miles.

We can say that due to the British impact, the methods of irrigation improved and the irrigated area tripled in forty years.

38. Ibid, p. iii
The word ‘famine’ derived from the Latin word ‘fames’ meaning hunger, has been defined as a condition of extreme general scarcity of food’ or want of food hunger and starvation in a certain area or part of a country.40

Causes of Famines:

The causes of scarcity or famine are the failure of the south-western monsoon; adverse weather conditions, such as hail and frost, or visitations of locusts. The tracts most liable to famine are the desert regions as there are no forests and perennial rivers. The depth of water from the surface exceeds the Practical limit of well-irrigation.41

Famines may be classified thus according to their intensity as grain famine (Anpal); scarcity of water (Jalpal); fodder famine (Trinpal); and scarcity of grain, water and fodder combinedly known as Trikal.42

From the point of view of famine, the kharif is the more important harvest, as the people depended on it for their food supply and fodder. The money value of the rabi or spring harvest, however, generally greater than that of the kharif. Hence it is often said that the people look to the autumn crop for their food supply, and to the spring crop, to pay their revenue and the village money-lender. A late or even a deficient rainfall would not necessarily entail distress. Through the yield of the kharif would probably be below the average it might be followed by an abundant rabi. On the other hand, absolute failure of

40 (a) New English dictionary edited by Sir James A. Munny.
(b) Palgrave’s Dictionary of Political Economic, p.19.
41 Provincial Gazetteers, p. 61.
42 Unisavi Shati Ke Rajasthan ka Samajik avem aarthik vikas, op. cit., p. 171.
rain between June and November would not only mean no autumn crops, but a
great loss to the spring harvest as well.

Rajasthan has been subject to famines from the earliest times of which
we have no record. In the 17th century one severe famine visited Rajputana in
1600-01. In 1661-62 another famine visited Rajputana in which all was lost in
hunger, fruits flowers, every vegetable thing, even trees were stripped of their
bark, to appease the leavings of hunger: may, man, ate man.43 A severe famine
raged throughout Rajasthan in 1747 in which thousands of cattle perished for
want of fodder and men from the dearth of grain.44 Again a destructive famine
occurred in 1796. In the 19th century several severe famines visited Rajputana.
They occurred in the year 1804, 1812-13, 1837, 1868-69, 1877-78 and 1899-
1900.

In 1804, during the reign of Jagat Singh (1803-1819), a famine
occurred in the Jaipur state due to the plundering activities of Holkar’s army
Maratha chief.45

Another severe famine occurred in Jaipur state in 1832-33 due to the
failure of monsoon and attack of locusts.46 Again Erratic rams created famine
conditions in Jaipur state in 1868 during the reign of Maharaja Sawad Ram
Singh (1835-1880).47

43 Provincial Gazetteers, p. 62.
44 Full of Mughal Empire, Vol. I, op. cit., p. 159.
46 Ibid., p.146.
47 Ibid., p.159
Among other relief measures, major ones were ban on report of fodder, removal of tax on rice and prices of rice at 8 sers per rupee.\(^{48}\)

The other severe famine which came to the Rajputana was in the year 1899-1900 which was later described as a ‘famine unprecedented in the annals of Rajputana’. The census returns of 1901 show that the population of Rajputana decreased to the extent of 2,267,203 persons or 18-19 percent of the population enumerated in 1881. The large fall was mainly due to the famine of 1899-1900 followed by the outbreak of epidemics like Malaria and Cholera.\(^{49}\)

During this famine the relief works were started all over Rajasthan on a systematic basis.

In Jaipur the famine operation were in advance of most of the states in Rajasthan and the famine was fought by the state with its own founds.\(^{50}\) In other states the relief operations which included public works, kitchens, poor houses, etc., were undertaken on a large scale. They even borrowed money from the British government to meet the expenses.

\(^{48}\) Ibid., p.160.
\(^{49}\) Indian Irrigation Commission Report, p. 221.
\(^{50}\) Revenue and Agriculture Department, Famine Part B, 13th April, 1900.