Chapter - 1

Agricultural Production
CHAPTER – 1

AGRICULTURE PRODUCTION

(A) BOUNDARIES AND AREA OF KASHMIR

The description of the boundaries and area of Kashmir as given by the Persian writers and travellers accounts are generally vague in nature. When they speak of Kashmir, they include the valley as well as the regions around it.

Sharafuddin Ali Yazdi describes the valley as lying in a longitudinal position enclosed on all sides by mountains; the southern range in the direction of Delhi; the northern towards Badakhshan and Khurasan, the western towards the country of the Afghan and the eastern terminating in the outlying district of Tibet¹.

Mirza Haider Dughlat places Kashmir to the West of Tibet². According to him, the plain (Julga) of Kashmir, extended from the Bakani quarter, which means “between the South and the East”, towards the Rikan Bain (on north-west)³.

The Mughal historians however give a more accurate description of the boundaries of the valley. Abul Fazl⁴ includes the Sarkar of Kashmir in the

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Suba of Kabul. He\textsuperscript{5} describes its boundaries as follows: on the east are paristan and the river Chenab; on the south-east Banihal and the Jammu mountains; on the north-east, Great Tibet\textsuperscript{6}; on the west, Pakli and the Kishan Ganga river; on the south-west, the Gakkar country, and on the north-west, Little Tibbet\textsuperscript{7}. It is encompassed on all sides by the Himalayan ranges.

\textit{Tuzuk-i-Jahangiri} gives the length of Kashmir, from the pass of Buliyasa to Qamarbar is 56 \textit{Jahangiri koss} long, and its breadth is never more than 27 \textit{koss}, or less than 10 \textit{koss}\textsuperscript{8}.

Muhammad Saleh Kambo places the valley in south-north direction, from the \textit{Qasbah} of Verinag up to Darwaza Kutal\textsuperscript{9}.

Different writers give different measurements of the valley: Ali Yazdi says the plain of Kashmir extended from east to west and measured about 40 \textit{farsakhs} and from south to north, it measured 20 \textit{farsakhs}\textsuperscript{10}.

According to Mirza Haider Dughlat, the plain of Kashmir is about a hundred \textit{kroh} (30 \textit{farsakhs}) in length and in width, some parts are about 20 \textit{kroh} and in a few places 10 \textit{kroh}\textsuperscript{11}.

During the 16\textsuperscript{th} century, entire area of the valley measured hundred twenty \textit{kos}\textsuperscript{12} in length and ten to twenty five \textit{kos} in breadth\textsuperscript{13}, though Jahangir

\begin{footnotesize}
\begin{enumerate}
\item Ibid, p. 169.
\item Prof. Irfan Habib, \textit{An Atlas of the Mughal Empire, Political and Economic Maps}, Delhi, 1982, Sheet 3A, pp. 5-6.
\item Ibid, p. 6.
\item Jahangir, \textit{Tuzuk-i-Jahangiri}, ed. Saiyid Ahmad, Ghazipur and Aligarh, 1863-64, p. 298.
\item Zafarnama, Vol. II, p. 178; Also see \textit{Tarikh-i-Firishta, op. cit.}, p. 333, According to Azam, the plain of Kashmir extended from east to west, 40 \textit{farsakhs} and south to north 20 \textit{farsakhs}: Waqiat-i-Kashmir, f. 4ab.
\item \textit{Tarikh-i-Rashidi}, p. 424.
\item \textit{Ain}, II, p. 169; In \textit{Tuzuk-i-Jahangiri}, it was a unit of measurement equal to 5,000 yards as per \textit{Jahangiri Diva}. Each yard was of 24 digits or \textit{angusht}: p. 298.
\item \textit{Ain}, II, p. 169.
\end{enumerate}
\end{footnotesize}
believed it to be between fifty six to sixty seven kos in length and only two kos in breadth.\textsuperscript{14}

Muhammad Saleh Kambu gives its length from Verinag to Darvaza Kutal belonging to the \textit{pargana} of Dachhina and Khawara as 100 official kroh and its width from Moza Koknah in the east up to Firozpora of \textit{pargana} Bangil, about 30 kroh\textsuperscript{15}.

According to Hasan\textsuperscript{16}, the plain of Kashmir, is like a broad pass (placed) between lofty Himalayan ranges, and from the south-eastern corner towards the north-western corner, is like a square and a parallelogram.

According to Forster, the valley of Kashmir is of an elliptick form and extends about ninety miles in a winding direction from the south-east to the north-west\textsuperscript{17}.

Bernier\textsuperscript{18} says, “Kashmir, however, is no longer a lake, but a beautiful country, diversified with a great many low hills: about thirty leagues in length, and from ten to twelve in breadth. It is situated at the extremity of Hindustan, to the north of Lahore, enclosed by the mountains at the foot of Caucasus, those of the kings of Great Tibet and Little Tibet, and of the Raja Gamon, who are its most immediate neighbours.”

According to M. Elphinstone\textsuperscript{19}, “The valley of Kashmir is surrounded by lofty mountains, which divided it from Little Tibet on the North, from

\begin{footnotes}
\item Tuzuk, p. 298.
\item \textit{Amal-i-Saleh or ShahjahanNama}, vol. II, pp. 19-20.
\item F. Bernier, \textit{Travels in the Mughal Empire 1656-68}, Transl. on the basis of Irving Brock’s version by A. Constable, with notes, 2nd edition, revised by V.A. Smith, London, 1916, p. 395, Also see footnote Nos. 2, 3, 4.
\end{footnotes}
Ladauk on the east, from the Punjab on the south, and from Pukhlee on the west”.

In the shaggy and hilly terrain of Kashmir, passes and routes connecting the various parts of the region with one another, and providing access to the outside world, were of paramount importance. The Mughals paid great attention to the maintenance of the routes and roads. According to Abul Fazl, there were twenty six roads leading into Hindustan but the Bhimbar and Pakli roads are the best and are generally practicable on horseback.

Lahori also mentions four routes connecting Lahore with Kashmir, one each via Pahkli, Chaumak, Poonch and the Pir Panjal.

According to M. Elphinstone, seven routes connected Kashmir with the rest of the world; four were from the south, one from the west and the remaining two from the north. The Afghans, however, preferred the Baramulla...
route for being nearer to Afghanistan. All these routes went across the lofty mountains ornamented as well as beautified with snowy peaks and high and pleasing and delightful woods containing all kinds of trees. In the middle of the lofty mountains, stood an arable area which was occasionally featured by the presence of peculiar plateaus termed *udars* or *karewas* in the contemporary literature. The water for the irrigation of entire land including the *udars* was sent out by the snowy peaks through countless channels of water. It is important to note that like Iran and Turan the valley experienced heavy snowfall reinforced by periodical rains. Naturally the high mountains enclosing the valley, restricted the scope of heavy monsoon. But this never saved the valley from untimely and unusual meteorological occurrences, which gave regular trouble to the people. On account of the snowy mountains, the climate of the country was somewhat cold. Nevertheless, the valley was inclined to remain a zone of moderate and exhilarating climate that bestowed pleasure upon men and at the same time rendered the valley pleasant and joyous.

30 *Akbarnama*, Vol. III, part-II, p. 543; According to Suka, “Snow fell on the houses …… like showers of flowers from the sky”: *Rajatarangini*, p. 411; According to Abul Fazl, “The rain and snowfall are similar to that of Turkestan and Persia and its periodical rains occurs at the same season as in Hindustan. The lands are artificially watered or dependent on rain for irrigation”: *Ain*, II, p. 169 & its transl. p. 352 & n. 3.
Father Jerome Xavier\(^\text{33}\) who visited Kashmir in 1597 in the train of Emperor Akbar, writes: “The kingdom of Caximir (Kashmir) is one of the pleasantest and most beautiful countries to be found in the whole of India, we may even say in the east. It is completely surrounded by very high mountains, which for the greater part of the year are covered with snow; and all the rest of the kingdom is a beautiful plain clothed in verdure diversified with groves, orchards, gardens, and well-watered by springs and rivers, a very pleasant land for those who dwell therein.”

According to Mirza Haider Dughlat,\(^\text{34}\) ‘Kashmir is among the most famous countries of the world, and is celebrated both for its attractions and its wonders.’ Abul Fazl\(^\text{35}\) found the country ‘enchanting, and one that might be fittingly called a garden of perpetual spring surrounding a citadel terraced to the skies, and deservedly appropriate to be either the delight of the worldling or the retired abode of the recluse.’ But the charming beauty of Kashmir had a hypnotic effect on ‘Urfi’. He described the rejuvenating effects of the climate of Kashmir in his well-known verse.\(^\text{36}\) Akbar was so delighted with the country that he called it his ‘private garden’.\(^\text{37}\) According to Jahangir, ‘Kashmir is a garden of eternal spring, or an iron fort to a palace of kings-a delightful flower-bed, and a heart-expanding heritage for dervishes. Its pleasant meads and enchanting cascades are beyond all description. There are running streams and fountains beyond count. Wherever the eye reaches, there are verdure and running water. The red rose, the violet, and the narcissus grow of themselves;

\(^{33}\) *Akbar and the Jesuits*, pp. 75-78.

\(^{34}\) *Tarikh-i-Rashidi*, Eng. Transl., p. 424.

\(^{35}\) *Ain*, II, p. 169.

\(^{36}\) *Tarikh-i-Firishta*, II, p. 334: Urfi’s famous lines are: *Har Sukhta Jane Ki ba Kashmir dar ayad Gar Murgi kababast ba bal o par ayad.*

in the fields, there are all kinds of flowers and all sorts of sweet-scented herbs more than can be calculated. In the soul-enchanting spring the hills and plains are filled with blossoms; the gates, the wall, the courts, the roofs, are lighted up by the torches of banquet-adorning tulips.'\textsuperscript{38}

\textsuperscript{38} \textit{Tuzuk}, p. 299.
(B) EXTENT OF CULTIVATION

In order to expand the Mughal Empire\(^1\), Kashmir was annexed in 1586 A.D\(^2\). Though for some time, it remained a vital part of the province of Kabul\(^3\), but very soon Kashmir assumed the status of a full fledged province like other Mughal Indian provinces. It was made into a separate *Suba* under Jahangir\(^4\). Thenceforth, the *Suba* of Kashmir was broadly divided, as earlier\(^5\), into two major divisions termed Maraz and Kamraz in *Persian* accounts\(^6\). For the sake of administrative convenience, the two parts were further subdivided into a considerable number of administrative units designated *Parganas*\(^7\). Kalhana in his account, names several *Parganas*\(^8\), but it is Abul Fazl, who first of all gives us a systematic list of the *parganas* of Kashmir. Subsequent evidence indicates how the number of the *parganas* was increased or readjusted within certain limits considering the fiscal requirements or administrative action. According

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1  F. Bernier, *op. cit.*, pp. 400-1.
3  *Ain*: Abul Fazl in *Ain*, treats Kashmir as a *Sarkar* of the *Subah* of Kabul, which was comprised of Kashmir, Pakhli, Bimmer, Swat, Bajaur, Qandahar, Ghaznah and later Kabul : II, p. 169; A *Sarkar* is a sub-division of a *Subah*. Each *Subah* constituted several *Sarkars* and each *Sarkar* was sub-divided into *Parganas or Mahals*: *Ain*, H.S. Jarrett, II, pp. 95-96.
6  *Akbarnama*, vol. III, part-II, pp. 548-49; Maraz lay on the east and Kamraz on the west of Kashmir (Srinagar): *Ain*, II, p. 176; These were the traditional divisions of the Kashmir valley, one comprising the upper part of the valley (Maraj), the other the lower (Kamraj): *Tuzuk*, p. 298.
7  It is an administrative unit for revenue purposes, when territorial, identical with *Pargana*, but when non-territorial e.g. Market dues, customs house, mint etc., identical with *Mahals*.
to Abul Fazl, in the revenue returns forwarded by Qazi Ali (Akbar’s assessor) to the imperial court, forty-one *parganas* were dealt with, while the return submitted by Asaf Khan (another assessor) contained but thirty-eight, there being thirty eight in point of fact. The difference was accounted for by the amalgamation of some and the splitting up of other *parganas*. The changing number of the villages in each *pargana* together with the emergence of new villages as is indicated by Narain Koul Ajiz and Muhammad Azam’s accounts reinforces the viewpoint that the number of the *parganas* could change depending on the circumstances. The number of the *parganas* was stated by Birbal Kachru, Muhammad Salih Kambu, Narain Koul Ajiz and Muhammad Azam at thirty-six, forty-four, thirty-seven and thirty-six during Akbar’s reign, Shahjahan’s reign, Aurangzeb’s reign and the later Mughal period respectively. Their number changed but little under the Afghans and the Sikhs as is suggested by Birbal Kachru and William Moorcroft who fixed their

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9 Ain, II, p. 176: Further he says that Qazi Ali, for instance, bifurcated the two villages of Karnah and Drao which formed a part of *pargana* Kamraz. He also created a new *pargana* by dividing *pargana* Sairul Muwazai itself into two units. He united 40 villages of Maraz district under the name of *pargana* Haveli and retained 88 villagers of Kamraz according to the former distribution under the separate name of *pargana* Sairul Mawazai; Tarikh-i-Hasan, Vol. I, pp. 244-45.


12 Narain Koul Ajiz, *Tarikh-i-Kashmir*, MSS No. 71, Farsiya Akhbar, Manuscript section, MAL, AMU, Aligarh, (C. 1710), ff. 41a – 42a : There is a variation of the various collection of same manuscript, in MSS No. 71, Ajiz has estimated 37 *Parganas* and 3274 villages, while MSS No. 18, CAS Deptt. of History, AMU, Aligarh, ff. 106-107, has estimated 35 *parganas* and 3239 villages.

13 Muhammad Azam, *Waqiat-i-Kashmir*, Farsiya Tarikh, Habib Ganj Collection 32/150, Manuscript section, MAL, AMU, Aligarh, completed, 1747, *Khatima*, ff. 285ab: There is a variation of the various collections of the same manuscript, in Habib Ganj Collection, 32/150, *Khatima*, ff. 285ab, Azam has estimated 36 *Parganas* and 3190 villages, while in Abdus Salam Collection, 527/48, Farsiya Tarikh, scribed in 1843-44, ff. 240b – 241a & MSS No. 72, Farsiya Akhbar, 1849, ff. 243ab, has estimated 32 *parganas* at 2815 villages and 32 *parganas* at 2886 villages respectively.
number at thirty-six only. Anyhow, parganas varied in size as is perceptible from the striking contrast in their revenue returns together with the distinct number of villages constituting each pargana separately. The largest pargana of Kamraz, for example, contained four hundred sixty-nine villages while pargana pattan comprised one single village. The parganas simply represented the total sum of villages, they varied in size, number and accruing revenues.

Kashmir being an agricultural region, the bulk of its population lived in villages and was taken to agriculture. It is not possible to give exact figures of the number of people inhabiting the valley during the medieval period. We are told by some of the chroniclers that the valley was thickly populated. For instance, the Zafarnama, mentions that the land was thickly populated, and so does Abul Fazl speak of the country’s “numerous population”. Moreover, it appears from the existence of innumerable deserted village sites that the valley possessed a large population under the Sultans than at present.

From the revenue statistics of Abul Fazl, we find that in the Maraz district the revenue realized was larger than in the Kamraz district. In Maraz district, Vihi pargana yielded more than either Icch or Brang pargana. Wular pargana yielded more than either Phak, Kuther or Mattan. In the parganas

16 Majmaat-Tawarikh, pp. 13-15; Tarikh-i-Kashmir, MS No. 71, ff. 41a – 42a; Waqiat-i-Kashmir, 32/150, Khatima, ff. 285ab.
17 Ibid, ff. 41a – 42a; Ibid, ff. 285ab; Also see Tarikh-i-Hasan, I, pp. 258-267.
18 Ain II, pp. 176-78; Also see, Tarikh-i-Kashmir, MS No. 71, ff. 41a – 42a.
20 Ain II, p. 170.
21 Ain II, pp. 176-78.
South-East of Srinagar, Adwin yielded the largest amount of revenue, Nagam came next and Verinag last of all. In the Kamraz district, Krohen yielded the largest revenue with Bangil following close. Inderkot came last of all. It may be mentioned here that the area covered by the various parganas was almost equal. We can therefore, infer that (i) Maraz district was more populous than Kamraz; (ii) in the Maraz district, Vihi, Wular and Adwin parganas were comparatively denser in population than the rest of the parganas; (iii) in the Kamraz district, Krohen and Bangil parganas were more populous than any of the other sixteen.

Abul Fazl, Jahangir and F. Bernier record that Kashmir was full of fields of green crops and that little of the land was left uncultivated. On the other hand, there is no record to show that grain was exported to places in the rest of India. This shows that the population of Kashmir was dense to the full productive capacity of the valley. Again, Abul Fazl says, “Notwithstanding its numerous population and the scantiness of the means of subsistence, thieving and begging are rare”\(^2\). The remark indicates that the population of the valley was denser than many parts in the rest of India. Secondly, we may infer that the valley must have been overpopulated because notwithstanding the thorough cultivation of land and the absence of exports of grain, “the means of subsistence were scanty”. This conclusion is also supported by the remark of Bernier about Aurangzeb’s visit to the valley. “That scarcity of provisions may not be produced in the kingdom of Kashmir, the king will be followed by a very limited number of individuals”\(^2\)

In the time of the Sultans and Mughals, the population was mainly concentrated in villages, and only a small portion of it lived in towns, the


\(^2\) Bernier, op. cit., p. 391.
largest among them being Srinagar called in the Persian Chronicles *Shahr-i-Kashmir* (city of Kashmir). The number of villages has been variously estimated. “Masudi (d. 956) says that the number of villages in the valley stood between 60,000 to 70,000”25. According to Sharfuddin Ali Yazdi, in the whole province – plains and mountains together – there were 100,000 villages26. The number of villages in the *Lokaprakasa* is placed at 66,06327. This is also the oral tradition of the Brahmans through out the valley28. Jahangir also gives the figure as 60,00029. Dimashqi (d. 1327) speaks of the Inner and outer Kashmir, the former containing 70,000 villages and the latter more than 100,00030. But these above earlier sources, have recorded highly exaggerated number of villages, existing in early medieval period31. According to F. Pelsaert, Many villages and handsome towns exist in all parts of the country, but the valley had countless villages32. Contemporary chroniclers have numbered them at three thousand, four hundred twenty five and four thousand during the reign of Akbar33 and Shahjahan34 respectively. For the period of Aurangzeb, they were estimated at five thousand, three hundred fifty two35, which came down to three

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26 Zafarnama, II, p. 178; *Tarikh-i-Rashidi*, p. 430.
29 That it can claim some antiquity is evident from the allusion made to the same under in Jonarja’s chronicle: M. A. Stein, *op. cit.*, II, p. 438; Also see [Jonar. (Bo. Ed.), 153.] Footnote No. 13.
31 Dr. Mohibbul Hasan, has inferred on the basis of above evidences that there would have been in between 70,000 and 60,000 villages during the Sultanate period and during the early Mughal period: *op. cit.*, p. 396-97.
32 Francisco Pelsaert, *op. cit.*, pp. 33-34.
33 *Majmaat-Tawarikh*, pp. 13-15; But the number of villages in Hasan’s account is three thousand, two hundred eight: *Tarikh-i-Hasan*, I, pp. 258-267.
34 *Amal-i-Saleh*, II, p. 20.
35 *Dastur-al-Amal*, Aurangzeb: Post 1696, Bodleian Library, Oxford (hereafter Bodl.), Fraser 86, Rotograph No. 183, f. 3; According to Prof. Irfan Habib, the total number of villages were 5,352, but all of them were unmeasured: *The Agrarian system of Mughal India 1556-1707*, Oxford, 2000, p. 4; Also see Rai Chatar Mal, *Chahar Gulshan*, translated by J.N. Sarkar in his *India of Aurangzeb*, Calcutta, 1901, pp. 131-32.
thousand, two hundred seventy four towards the end of his reign i.e. 1709-10. The number of the villages, which again slightly declined to three thousand, one hundred ninety by the reign of the later Mughals i.e. 1746 A.D. An idea about the number of villages comprising each pargana can be formed on the basis of the information conveyed by Birbal Kachru, Hasan, Narain Koul Ajiz, and Mohammad Azam. Table I gives a clear picture of this information.

### TABLE – I

#### PARGANA-WISE NUMBER OF VILLAGES

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<th>S. No.</th>
<th>Name of the Pargana</th>
<th>No. of Villages in Kachru’s Account for the Period of Akbar (1586-1605)</th>
<th>No. of Villages in Hasan’s Account for the Period of Akbar (1586-1605)</th>
<th>No. of Villages in Ajiz’s Account for the Period of Autangzeb (1709-10)</th>
<th>No. of Villages in Azam’s Account for the Period of Later Mughals (1746-47)</th>
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36 *Tariikh-i-Kashmir*, MS No. 71, ff. 41a-42a.
40 *Tariikh-i-Kashmir*: There is a variation of the various collections of same manuscript, in MS No. 71, ff. 41a-42a. Ajiz has estimated 37 *Parganas* and 3274 Villages, while MS No. 18, ff. 106-107, has estimated 35 *Parganas* and 3239 Villages. For this simplification, see table-I & section a & b, respectively.
41 *Waqiat-i-Kashmir*: There is a variation of the various collections of the same manuscript, in Habib Ganj Collection 32/150, *Khatima*, ff. 285ab, Azam has estimated 36 *Parganas* and 3190 Villages. While in Abdus Salam Collection, 48/527, ff. 240b-241a & MS No. 72, ff. 243ab, has estimated 32 *Parganas* at 2815 villages and 32 *Parganas* at 2886 villages respectively. For this simplification, see Table-I & Section a, b & c respectively.
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<td>Total Villages</td>
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<td>3274</td>
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The decline in the number of villages and consequently of the population itself began from the later Mughal, Afghan, and the Sikh period\(^\text{42}\).

The population figures of the valley seem to have undergone a radical change, with the coming of Afghan rule. Political uncertainty coupled with natural calamities like famines and floods resulted in wholesale emigration and death. Although there are no records to show the exact number of people who continued to inhabit the valley during troubled times, we get a glimpse of it from the diaries of some European travellers who visited the valley immediately after the end of the Afghan rule. Moorcroft records that whereas the population of the city of Kashmir, although much diminished, was very numerous, yet at the same time the villages and small towns were deserted, people having either migrated to the capital where there was greater safety or to the plains of Hindustan\(^\text{43}\).

We have no precise data regarding the number of dwellings in each village or villages together. There are the name of few places, such as Awri, Chahkothi, Chakar and Danah etc; which contained forty to fifty houses\(^\text{44}\). During Jahangir’s reign, the population of the valley was seventeen lakh, sixty-eight thousand and thirty-three\(^\text{45}\) excluding one lakh and seventy-five thousand inhabitants of Srinagar city\(^\text{46}\). According to Shams Siraj Afif, each village in

\(^{42}\) Mohibbul Hasan, \textit{op. cit.}, p. 397; Also see, R.K. Parmu, \textit{op. cit.}, pp. 391-92: “Apart from the consequences of the wars of occupation and civil strifes, we have also to take into account famines, floods, fires and epidemics which occurred repeatedly during this period and took a heavy toll of the population.”


\(^{44}\) Mirza Saif-ud-Din, \textit{Khulasatu-t-Tawarikh}, Urdu transl. From Persian, Mirza Kamal-ud-Din Shaida, Srinagar, December, 1984, pp. 258-59, reveals that there were, on an average 50 houses in each village.

\(^{45}\) The actual figure given by Hasan is 19, 43, 033 including the rural and urban dwellers together: \textit{Tariikh-i-Hasan}, I, p.273. In order to work out the exact figure of village population, the figure of 19, 43,033 has been subtracted by the figure of 1,75,000 representing the number of inhabitants in proper Srinagar.

\(^{46}\) The given figure is actually 1,50,000 – 2,000,00 the mean of which is 1,75,000: Mount Stuart Elphinstone, \textit{op. cit.}, Vol. II, p. 238.
medieval India had 200 to 300 men\textsuperscript{47}. By 1825, the population of Kashmir was estimated at 8,00,000\textsuperscript{48}. In 1835, it was stated that the population of the valley did not exceed 200,000 persons, ‘to which number it had been in twenty years reduced from 800,000 by oppression and the awful dispensation of earthquake, pestilence, and famine’\textsuperscript{49}. According to M. Elphinstone, the city of Cashmeer is the largest in the Dooraunee dominions. It contains from a hundred and fifty to two hundred thousand inhabitants\textsuperscript{50}.

“Owing to its rivers Kashmir possesses a large area of alluvial soil\textsuperscript{51}.” The soil of Kashmir can be broadly divided into the old alluvial and the new alluvial. The old alluvial\textsuperscript{52} forms the table-lands (Karewas) and the new alluvial\textsuperscript{53} the flat basin of the river Jehlum and its tributaries. The local name for the table land is karewa and in ancient Sanskrit chronicles it has been recorded as Uddara\textsuperscript{54}.

The new alluvial soil was further divided into many categories\textsuperscript{55}, such as the Grutu, Bahil, Sekil and Dezanlad. These classifications were based on the irrigation facilities available, their proximity to villages, and the quantity of manure they received before cultivation. Besides the above four types, a
number of special varieties are known to occur locally: *surhazamin, lamb, rad, tand, zabalzamin, kharzamin, ront, shath and tats* \(^{56}\).

In the lakes two types of artificial soil were created by the people. The first type was known as *Radh*, i.e. floating gardens \(^{57}\) and the second as *Demb* \(^{58}\) made, either along the edge of the lakes or in the centre of lakes, by raising the ground by putting saplings of trees etc. The floating gardens (*Radh*) were made by raft and seeds on which earth and weeds were placed till it became strong enough to bear sufficient weight \(^{59}\). Besides these above two types of the soil i.e. *Radh* and *Demb*, there is another kind of land, known as *Daji*. “This is natural land, and if on the edge of the lake, is *Sailab* and valuable, and nearly as good as *Demb*, and grows all crops” \(^{60}\).

Due to the deficient village statistics, it is very difficult to know the extent of the land occupied by each family or families together in a village. Zainul Abidin took keen interest in agriculture. He built floating islands on which crops were sown. He paid attention towards the reclamation of land and also towards the digging of the canals and thus brought large areas which lay barren under cultivation \(^{61}\). Abul Faiz Faizi has mentioned that there was not a single piece of land which was not brought under plough. Three-fourth of the entire land of the *Suba* was mountainous, and the rest one-fourth was brought

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\(^{56}\) Lawrence, *op. cit.*, pp. 320-21; Moonis Raza, *op. cit.*, vol. I, p. 118, for details see p. 124, & n. 16.

\(^{57}\) Moorcroft & Trebeck, *op. cit.*, part III, Ch. II, pp. 137-142; Wilson H.H., *Gazetteer of Kashmir and Ladakh*, Vivek publishing House, New Delhi, 1974, p. 788: *Dal* lake was famous for such floating gardens. Garden produces, such as vegetables and cucumbers, melons, were grown on this soil. Also see *Ain*, II, p. 173 and its transl. II, p. 361 & n.2.

\(^{58}\) Gazetteer of Kashmir and Ladakh, p. 788: In case of the *Demb* poplars and willows were planted within a small square and some time stakes too were used in place of saplings of trees. This kind of soil was very rich and did not require irrigation.

\(^{59}\) Ibid.

\(^{60}\) Ibid.

under plough, orchards, were planted and as such there was extensive use of culturable land. On the basis of revenue returns in the Ain, we can safely infer that the area lying in between Gugnagir to Ferozpur and Hirapura to Baramulla was mostly brought under plough. According to Jahangir, out of the total land, three-fourth was mountainous and only on-fourth was arable. According to Lahori, half of the madad-i-maash assignments were assigned out of barren land with a directive to bring the same under plough.

Lahori give us a detailed account of the pastoral areas and health resorts, in the valley. He also informs us that both kashta (cultivated land) and non-kashta (waste-land) land appears to have been brought under cultivation of cereals, fruit and vegetable subsequently.

Ali Yazdi says that the soil of Kashmir is cultivated and many fruit trees grow, in the valley but due to the cold climate and heavy snowfall many fruits like dates, oranges, lemons, etc. which require hot temperature cannot be cultivated here; they are imported from the neighbouring warm regions.

Mirza Haider Dughlat, Muhammad-Qasim Firishta and Azam, divided the land into four types or kinds namely, Abi, lalmi, baghi and nambal or maidanee.

According to Abul Fazl, the land was artificially irrigated or was dependent upon rain. Hasan Khoyhami divides the plain of Kashmir or the soils of

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63 Ain, II, pp. 175-78: We have pargana-wise statistical information about the land revenue realised in kind at the rate of one-half. These returns support our inference, see Amal-i-Salih, II, pp. 17-24.
64 Tuzuk, p. 300.
68 Tarikh-i-Rashidi, Eng. Transl. pp. 425-30; Tarikh-i-Firishta, Vol. II, p. 333; Waqiat-i-Kashmir, MS No. 32/150, f. 6a: Here, according to Mirza Haider Dughlat, the fourth kind of land is nambal, while Firishta and Azam, considered nambal as maidanee.
69 Ain, II, p. 169: Here the terms are Abi, Lalmi and Chalkhai. For detail see Jarrett. transl. II, p. 352 & n.3.
Kashmir and its fertility into three categories\textsuperscript{70}. First, the flat and level land of the valley producing crops two or three times more as compared to the highlands; Second, on the slopes of the mountains coming down into the flat surface of the valley from every side, the crops are average in strength, growth and volume; and third, the foothills of the mountains and the \textit{Karewahs} are cultivable but also sandy. The products of these regions are of a third category and the crops are third-rate in strength, growth and abundance. Some of these areas are rocky and desolate and have thorns and bushes.

The \textit{Abi} land was meant for paddy cultivation, which was irrigated by a variety of water resources\textsuperscript{71}. It entailed regular irrigation which was generally rendered possible by countless springs and streams of water discharged by the snowy mountains\textsuperscript{72}.

Another kind of land was \textit{Lalmi}, which was meant for the cultivation of spring\textsuperscript{73} crops including wheat, barley, pulses and mustard\textsuperscript{74}.

The third, \textit{Baghi} land contributing to the mass of area in the valley\textsuperscript{75} was meant to grow fruits of which we have a detailed account in \textit{Tuzuk-i-Jahangiri}\textsuperscript{76}.

The fourth kind known as \textit{nambal} or \textit{maidanee} land, which was swampy and unfit for cultivation\textsuperscript{77}.

\textsuperscript{70} \textit{Tarikh-i-Hasan,} I, pp. 98-99: Here Hasan used the term as \textit{Abi} and \textit{Lalmi} for the first category of land and again \textit{Abi} and \textit{Khushki} land for the third category.

\textsuperscript{71} \textit{Ain,} II, p. 169 and its transl. II, p. 352 & n.3: The land watered from ponds, tanks, lakes and watercourses etc.

\textsuperscript{72} \textit{Ibid,} II, p. 169; \textit{Tuzuk,} p. 299; Bernier, \textit{op. cit.}, p. 396.

\textsuperscript{73} \textit{Ain,} II, p. 169 & its transl. II, p. 352 & n.3: This land was wholly dependent on rain for irrigation.

\textsuperscript{74} \textit{Akbarnama,} Vol. III, part-II, p. 548.

\textsuperscript{75} \textit{Tarikh-i-Rashidi,} pp. 425-30, \textit{Tuzuk,} p. 299-300.

\textsuperscript{76} \textit{Tuzuk,} p. 299-300, 306-307.

\textsuperscript{77} \textit{Tarikh-i-Rashidi,} pp. 425-30; According to Hasan, Sairul Muwazai \textit{Payeen}, occupied the land below Srinagar and went as far as the \textit{wular} lake. The area was mostly occupied by the swamps: \textit{Tarikh-i-Hasan,} I, pp. 265-66; Further Hasan says that the most of marshy land were a source of
Tulmulla village alone stretched or enclosed hundred bighas of land which were flooded during the rains and remained somewhat moist even after the water dried up. Besides, Kashmir valley abounded in dense forests, and in pastoral land which provided sufficient grazing for sheep and cattle. According to G.T. Vigne, Muru-wurdwun is a narrow defile, whose sides are very steep, and covered with a jungle, chiefly of fir-trees. The village of Deosir or Devsar lies very snugly at the foot of the hills, on the southern side of the Veshau, but miles of wild and wooded scenery intervene between it and the snowy panjal. In the Kashmir we also found that the several plots located in different parganas and villages were earmarked for grazing purposes and others. For example, pargana Beeru exemplified such pasture ground the grass of which contained fattening properties. Hasan, in Tarikh-i-Hasan, gave a detailed account of the meadows of Kashmir. He says that there are on the mountains of this land, many wide and level meadows which are refreshing and have beautiful flowers and green grass in them. In summer, the shepherds and herdsmen carry their animals to these meadows for grazing and bring them back in the month of Katak. Like other types of land, one comes across information regarding the uftada (unploughed) type of land in almost every village of the valley. The villages Dakhamun is covered with particles of straw and rubbish. The pargana Phak grow a variety of herbs and plants.

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fodder for horses and cows, but with proper care rice and maize can be grown there with profit. Varieties of water fowls were hunted on these marshy lands. There were eleven such marshy lands in Kashmir and these were taxed higher than ordinary soil: Tarikh-i-Hasan, I, pp. 160-162.

78 Ain, II, p. 175.
84 There is a detailed account of these meadows which are liked by kings and are the recreation ground of travellers: Tarikh-i-Hasan, Vol. I, pp. 83-89; Also see, Amal-i-Saleh, Vol. II, pp. 29-30.
86 Ain, II, p. 173.
87 Ibid.
The **pargana Shahabad** was overgrown with weeds and jungle\(^{88}\). Besides those above lands about which I have mentioned earlier, the **karewahs or udars** are also a special feature of the valley of Kashmir. Both Moonis Raza\(^{89}\) and Lawrence\(^{90}\) described about the **karewahs** in their book, but Hasan describes 28 **karewahs** in his *Tarikh-i-Hasan*. He says that they are flat and rising from the ground, on an average, from 100 ft. to 200 ft. Some of them are connected with the mountains while others are unconnected\(^{91}\). The following is a description of the **karewahs** as given by the Persian writers and other:

**Karewah Mattan or Martand** – **Its surface is flat and level and fit for agriculture and habitation but today it is desolate due to the non-availability of water**\(^{92}\).

**Karewah Naunagri** – **It is flat and broken and the land is mostly cultivated with **Shali** grown on one side. It is barren of trees and thorns**\(^{93}\).

**Karewah Zainahpurah** – **It is situated in **pargana Adwin**. It has a level surface and, in between, there are many lowlands; it has water and land cultivations and abundance of trees and thorns**\(^{94}\).

**Karewah Nagam** – **It is situated on the way of **Charar. It is high and wide and is fit for cultivation of crops that do not need water**\(^{95}\).

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\(^{90}\) Lawrence, *op. cit.*, p. 17.

\(^{91}\) *Tarikh-i-Hasan*, I, pp. 90-98.

\(^{92}\) According to Abul Fazl, the **pargana Martand** was actually known by the name **Mattan**; *Ain*, II, p. 172; According to G.T. Vigne, **Martand**, situated on the highest part of the **karewah** or raised plain of alluvium between *Islamabad* and the higher mountains: *Vol. I*, pp. 359-60; *Tarikh-i-Hasan*, I, p. 90.

\(^{93}\) *Tarikh-i-Hasan*, I, p. 92; According to C.E. Bates, it is one of the largest **wudars** in *Kshmir*; *A Gazetteeer of Kashmir and the Adjacent Districts of Kishwar Badrwar, Jamu, Naoshera, Punch and the valley of Kishen Ganga*, New Delhi, 1980, p. 292.

\(^{94}\) *Ibid*; According to Bates, **Zainapurah** is the name of **pargana** in the Shupiyan Zilla, it comprehends the table land lying to the north-east of *Shupiyan; A Gazetteer of Kashmir*, p. 407. *Ibid*, I, p. 94; Further Hasan says that, it was a densely populated area spread over several **karewahs** of land occupied by many villages namely **Chiraat, Arigam, Khanpur and Charar-i-Sharif**; I, p. 262.
Damodar Wudar – Hasan places it in pargana Ichh and says it is detached from every side and is flat. Its centre is full of low lands without any trees and thorns and has no water. Spring and autumn crops are cultivated with rain water and they are rich and nutritious\textsuperscript{96}.

Karewah Hanjak – Hasan Places it adjacent to Karewah Khoshipurah and says a little dry cultivation is done there\textsuperscript{97}.

Karewah Badgam – Hasan places it in pargana Dinsu. On its surface there are many villages which have cultivation\textsuperscript{98}.

Karewah Pattan – It is situated in the vicinity of village Bangil. Because of the canals existing there, Shali crop is cultivated in some places. The Kharif crop is excellent and fully grown\textsuperscript{99}.

Karewah Kariri – Hasan places it in pargana Kurohan and it is fit for land and water cultivation\textsuperscript{100}.

Karewah Ushkurah – Hasan places it in pargana Kurohan. It is very wide and cultivable and has many villages\textsuperscript{101}.

Karewah Wagab – It is without water and has abundance of dry cultivation\textsuperscript{102}.

\textsuperscript{96} Ibid; According to M.A. Stein, An earlier Sanskrit term is Suda, originally meaning ‘barren waste ground’. Kalhana employs it when speaking of the well-known Damodar Udar: Rajatarangini, I, 156 note, pp. 28-29; Also see M.A. Stein, Ancient Geography of Kashmir, Patna, 1977, Section VII, p. 117.

\textsuperscript{97} Tarikh-i-Hasan, I, p. 95.

\textsuperscript{98} Ibid.

\textsuperscript{99} Ibid, pp. 95-96; Further Hasan mentioned that, the pargana was in the lap of another pargana Sairul Muwazai. It had comparatively a plain area : I, p. 267; Accriding to C.E. Bates, a large village lying at the foot of the table land on the south side of the valley of Kashmir, by the edge of the Pambarsar morass : A Gazetteer of Kashmir, p. 305; M.A. Stein, Ancient geography of Kashmir, pp. 198-99.

\textsuperscript{100} Tarikh-i-Hasan, I, p. 96; This is the sloping table land on which the village Kiri in Krohin pargana is situated: C.E. Bates, A Gazetteer of Kashmiri, p. 245.

\textsuperscript{101} Tarikh-i-Hasan, I, p. 96.

\textsuperscript{102} Ibid.
Karewah Bandahpurah – Hasan places it in pargana Khuihamah. It has moisture and it has abundant cultivation of Shali and many other grains and almond gardens\textsuperscript{103}.

Karewah Safapur – This wudar is in Sairul Muwazai; the lower, on the bank of Mansar spring. It has moisture and is fit for the cultivation of Shali and other grains\textsuperscript{104}.

Karewah Karahamah – Hasan places it in pargana Lar (Lal), it is very wide, has moisture and is cultivable\textsuperscript{105}.

Waj Wudar – Hasan places it in pargana Lal (Lar), it is mostly fit for dry cultivation and little for water cultivation. On it grew plenty of apricots and at its foot is the royal canal which reaches Srinagar\textsuperscript{106}.

Karewah Panpor – Hasan describes it as being situated in pargana Wuhu. On one side flows the Behet and on the other, there is a lake and, in between, there are lowlands and highlands. It has no water but is cultivable for many kinds of crops. In the village of Pampur, one of the dependencies of Vihi, there are fields of Saffron to the extent of ten or twelve thousand bighas\textsuperscript{107}.

Besides these above karewahs, there are descriptions of different parganas or descriptions of few parganas, which shows their topographical account. Pargana Machihama extended eastwards as far as the river Jehlum\textsuperscript{108}.

\textsuperscript{103} Ibid.
\textsuperscript{104} Ibid.
\textsuperscript{105} Ibid.
\textsuperscript{106} Ibid, I. p. 97.
\textsuperscript{107} Ain, II, p. 172; Tarikh-i-Hasan, I, pp. 97-98; According to C.E. Bates, the table land to the South is called ‘Sona Krund’ (Golden Basket) Wudar; it is almost entirely devoted to the cultivation of Saffron, for which the town is famous. A root called mazet, used to produce the almond coloured dye, is said to be found at Panpor: A Gazetteer of Kashmir, pp. 299-300; M.A. Stein, \textit{Ancient Geography of Kashmir}, pp. 122, 167.
It was known for vegetable and fruit cultivation. Particularly in one of its villages ‘Suibug’, one comes across reference to land stretching over 7-8 kroh meant for all kinds of vegetable cultivation. 5-6 bighas of land were under the cultivation of grapes and mulberry. According to Hasan, it was situated just adjacent to pargana Dinsu and was characterised by uneven land.

In the vicinity of the pargana Beeru was situated a plateau or table land. Pargana Devsar roughly comprised the tract of alluvial plain drained by the river Jehlum. It was largely fertile due to extensive canal irrigation. Pargana Zainagir comprised the fertile karewa tract between the Wular and the left bank of the Pohur river. According to Hasan, the pargana falls near Khoihama and is formed of plain area. Pargana Shahabad was overgrown with nettler and wild hemp. It was famed for the excellence of wheat and orchards. Pargana Kamraz was located on the hills and udars. The entire population of the pargana was concentrated on the land occupied by six udars.

Indeed, each type of land required as well as contained peculiar designation of measurement like kharwar, tarak, manwatta, patt, bigha, poorun, dast, and angusht. The term kharwar signified an area of land which required seeds equivalent to the weight of an ass-load; in Kashmir each village is assessed at some kharwars of shali. A kharwar is equal to 3 mans, 8 sers of Akbar, or 177.02 lb. avdp (80.37 kg.); hence, termed kharbar in

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110 Tarikh-i-Hasan, I, p. 266.
112 M.A. Stein, Ancient Geography of Kashmir, p. 183.
116 Tarikh-i-Hasan, I. pp. 263-64.
Kashmir. A tarak, according to the royal weights (of Akbar) is eight _seers_.

One Kashmiri _kharwar_ has 16 _tarak_; _manwatta_ was the one-fourth of a _tarak_. According to Abul Fazl, “In Kashmir every piece of ground is called _patta_, though a _patta_ originally is equal to 1 _Bigha_, 1 _Biswa_ (Ilahi) of Akbar. Two and a half _pattas_ and a little more are equal to 1 Kashmiri _Bigha_”.

Indian _bigha_ measured 60 _gaz_ long by 60 broad or 3600 square _gaz_. The term _bigha_ means a measure of an area and it measured an area of land equal to 36 _pooruns_ or 8,612 square _dast_ (hand breadths), while the _poorun_ measured 22 _dast_ in length and 11 in breadth which in all made it equal to 242 square _dast_. The term _angusht_ indicated to an area of land equal to 6 barley corns (breadth-wise) and each barley corn equaled to 6 hairs (breadth-wise) of a mule’s tail.

There were different types of the units of measurement like _Gaz-i-Akbari_, _Gaz-i-Jahangiri_, _Gaz-i-Shahjahani_, and _Gaz-i-Alamgiri_, seems to have been uniformly used to measure cultivable as well as arable land and each _Gaz_, however, altered as well as modified from the other in size. “The _Gaz-i-
Akbari or Gaz-i-Ila hi comprised thirty and a half finger-breadths or twelve girahs, Gaz-i-Jahangiri thirty-seven and a half finger-breadths or fifteen girahs; Gaz-i-Shahjahani forty finger-breadths or fifteen girahs, Gaz-i-Alamgiri measured forty two and a half finger-breadths or seventeen girahs"\textsuperscript{126}. About the Ilahi gaz, Abul Fazl says that “Throughout Hindustan there were three such measures current, \textit{viz}; long, middling and short. Each was divided into 24 equal parts and each part called \textit{Tassuj}. A \textit{Tassuj} of the 1\textsuperscript{st} kind was equal to 8 ordinary barley-corns placed together breadthways, and of the other two respectively, to 7 and 6 barley-corns. The long \textit{gaz} was used for the measurement of cultivated lands, roads, distances, forts, reservoirs and mud walls. The middling was employed to measure building of stone and wood, bamboo-built houses, places of worship, wells and gardens, and the short \textit{gaz} for cloth, arms, beds, seats of state, sedan chairs, palanquins, chairs, carts and the like"\textsuperscript{127}. “On the contrary, the Indigenous \textit{gaz} called Gaz-i-Kashmiri consisted of several parts, each of which was fixed at four fingers and two thumbs in length”\textsuperscript{128}. Even during the Afghan period the practice of measuring \textit{abi} land with the Gaz-i-Akbari and Gaz-i-Shahjahani remained in practice in Kashmir\textsuperscript{129}. The term “\textit{tanab} (tent rope) was in Hindustan a measure of hempen rope twisted which became shorter or longer according to the dryness or moisture of the atmosphere. It would be left in the dew and thus fraudfully moistened”\textsuperscript{130}. Every measure like the \textit{Tanab}, \textit{Jarib} and \textit{Bigha} seem to have been indiscriminately used as nearly interchangeable terms\textsuperscript{131}.

\textsuperscript{126} Ibid.
\textsuperscript{127} Ain, I, pp. 205-06.
\textsuperscript{128} Mushtaq A. Kaw, \textit{op. cit.}, pp. 62-63.
\textsuperscript{129} Ibid, p. 63.
\textsuperscript{130} Ibid, I, p. 206.
\textsuperscript{131} Ibid, I, pp. 206-7.
(C) MEANS OF CULTIVATION AND IRRIGATION

Cultivation of autumn crops generally began after Nauroz and spring crops, with the approach of Mezan\(^1\) the autumn. In each village the agricultural land was productive of two types of crops termed Kharif (autumn) and rabi (spring) in a year\(^2\). The crops such as paddy, maize, pea, bean, gal and millet, roughly sown in May-June and reaped in September – October, were classified into ‘autumn’ or ‘kharif’ crops. After that, the crops sown in October – November and reaped in April – May, were specified as ‘spring’ or ‘rabi’ crops and they usually comprised wheat, barley, pulses and mustard\(^3\). Paddy fields were ploughed thrice or four times\(^4\), while wheat, barley fields were ploughed only twice\(^5\), but maize fields were ordinarily ploughed twice or thrice\(^6\). After ploughing, the clods were broken into earth with the help of a wooden mallet. This work was usually performed by women\(^7\). In fact, hardly any substantial change has taken place in the cultivation since the Mughal rule. The peasant’s implements were the plough, with an iron plough share\(^8\), a wooden mallet for clod breaking, wooden spade with an iron tip, creel for carrying manure\(^9\) and a hoe\(^10\).

Sources of Manure – The two crop system is also suggestive of the fact that the land, save seed land\(^11\), yielding more than one crop a year, was not left

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1 Walter Lawrence, *op. cit.*, p. 325.  
4 Lawrence, *op. cit.*, pp. 326-27.  
9 Lawrence, *op. cit.*, pp. 324-25.  
11 Saffron had exemplified the single crop system. Also, its seed land was the exception which was kept uncultivated for a period of approximately 6 years to allow restoration of its lost energy: *Ain*, vol. I, pp. 63-64.
fallow from agricultural operation for the sake of recovering its consumed energy. The lost energy was compensated by the use of animal droppings together with the night soil\textsuperscript{12}. Fresh earth was generally spread over the fields, in addition to the usual dressing of manure\textsuperscript{13}. According to Moorcroft, the manure, for the most part, consists of rice straw, rejected by the cattle, and mixed with cow-dung\textsuperscript{14}. A large cattle population existed in Kashmir due to dense forests and large tracts of land earmarked for the pasturage\textsuperscript{15}. Kashmir had greater manure resources, owing to the large number of cattle heads, sheep and goats and an abundance of fuel\textsuperscript{16}. In winter the cattle remained penned in the houses for at least two months. Kashmiris did not use cow-dung\textsuperscript{17} for fuel because of the availability of sufficient wood from the nearby forests. Sheep\textsuperscript{18} and goats were also folded in fields in spring. Oil cake\textsuperscript{19} was given to bullocks and cows and this in turn enriched their cow-dung. Turf clods\textsuperscript{20} from water courses were also used to enrich the soil. In town, the one manure used is the poudrette, which is night-soil, was used after mixing it with the city dust\textsuperscript{21}. Even in the village, where irrigation facilities were not available, it was used with the help of the village drain for raising garden vegetables\textsuperscript{22}. Poultry faecal pellets were specially kept for onions and the droppings of the sheep were kept for rice nurseries\textsuperscript{23}.

\textsuperscript{12} Ibid; Moorcroft & Trebeck, \textit{op. cit.}, vol. II, pp. 134-35; Lawrence, \textit{op. cit.}, pp. 321-22.
\textsuperscript{14} Moorcroft & Trebeck, \textit{op. cit.}, II, pp. 134-35.
\textsuperscript{16} Lawrence, \textit{op. cit.}, pp. 321-22.
\textsuperscript{17} Ibid; Moorcroft & Trebeck, \textit{op. cit.}, II, pp. 134-35; G.T. Vigne, \textit{op. cit.}, I. p. 307.
\textsuperscript{18} Lawrence, \textit{op. cit.}, pp. 321-22.
\textsuperscript{19} Ibid, p. 322.
\textsuperscript{21} Lawrence, \textit{op. cit.}, p. 322.
\textsuperscript{22} Ibid.
\textsuperscript{23} Ibid, p. 321.
Agricultural implements – In Kashmir, the agricultural ecology along the fertility of the soil entailed germination of seeds and growth of plants which was generally rendered possible through a couple of agricultural tools, the plough\textsuperscript{24}. The agricultural implements of the Kashmiris were ordinary and few. The plough was very simple and small in size and was made of very superior wood, \textit{viz}, mulberry, ash and apple and had an adjustable or moveable wedge\textsuperscript{25}. The plough-share was tipped with iron\textsuperscript{26}. The ploughing was carried out with the help of a pair of bullock operated, as now, by a peasant to loosen the soil so as to allow the fresh air and the sun-rays to reach the soil beneath. How deep this implement would go into the soil for cutting furrows and turning it up, depended on the strength of the soil\textsuperscript{27}. Besides the plough, many other wooden tools with iron teeth were employed for digging the earth, breaking the clods, extracting weeds and loosening the soil\textsuperscript{28}. The wooden mattock or hand hammer with a long handle was used for breaking the clods of earth\textsuperscript{29}. Thus clods were broken down by blows with wooden mattocks, managed in general by women with regularity\textsuperscript{30}. A wooden spade was employed for planting the seeds\textsuperscript{31}. The Kashmiri spade was made of wood with the sharp edge tipped with iron. It had a narrow face and was also useful for digging out turf-clods and the arrangement of fields for irrigation\textsuperscript{32}. For maize and cotton a small

\begin{itemize}
\item \textsuperscript{24} Harbans Mukhia, “Technology in Medieval India,” Technology in Ancient and Medieval India, ed. Aniruddha Ray and S.K. Bagchi, New Delhi, 1968, p. 111.
\item \textsuperscript{25} The construction of the plough of Kashmir was very simple and its wooden plough-share was kept tight by moveable wedge: G.T. Vigne, \textit{op. cit.}, I, p. 309; Lawrence, \textit{op. cit.}, p. 324.
\item \textsuperscript{26} Lawrence, \textit{op. cit.}, p. 324.
\item \textsuperscript{27} Harbans Mukhia, \textit{op. cit.}, pp. 107-27.
\item \textsuperscript{28} \textit{Ain.}, II, p. 172; G.T. Vigne, \textit{op. cit.}, I, p. 309; Moorcroft & Trebeck, \textit{op. cit.}, II, pp. 133-35; Lawrence, \textit{op. cit.}, pp. 324-25.
\item \textsuperscript{29} Moorcroft & Trebeck, \textit{op. cit.}, II, p. 133; Lawrence, \textit{op. cit.}, p. 324.
\item \textsuperscript{30} Moorcroft & Trebeck, \textit{op. cit.}, II, p. 133.
\item \textsuperscript{31} \textit{Ain.}, II, p. 172.
\item \textsuperscript{32} Lawrence, \textit{op. cit.}, p. 325.
\end{itemize}
hand hoe was used for weeding and for loosening the soil. Sickle was used for cutting crops and grass. The creel for carrying manure and log-hammer for husking the rice were other agricultural implements.

Sowing – A variety of seeds were distributed over the land, after ploughing and softening the soil with the help of the above tools, which I have mentioned earlier. Either the seeds were broadcast or the saplings were transplanted from the nursery. The nursery system was favoured wherein sufficient water was available, as in the north of the valley. It is believed by the Kashmiri farmers, that the note of Cuckoo in the month of April reminded them of the time of sowing. The seeds of most of the grains were given to farmers at fixed rates out of the state stores or from the government stores. The seeds were distinct in shape and size and, likewise, “carried a different value in the market. What number of seeds could be had against a dam (fortieth part of a rupee) has been surveyed meticulously by Nath Pandit and he provided valuable information about their value in his work, Gulshan-i-Dastur.

Rotation of Crops – Kashmiri farmers rarely practised rotation of crops unless it was forced upon them. The farmer would go on sowing rice year after year rather than leave the fields fallow for a year or two. Inspite of the benefits of rotation of crops, the farmers generally preferred the cultivation of rice. They

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33 Ibid.
34 Ibid, p. 328.
36 Moorcroft & Trebeck, op. cit., II, pp. 132-34; Lawrence, op. cit., p. 331.
39 The Cuckoo is called the byal-Kuk in Kashmir. Byal signifies seed, and the farmers say that its note tells them to cast seed into the ground: G.T. Vigne, op. cit., II, p. 20.
41 For details see, Mushtaq A. Kaw, op. cit., pp. 66-67.
42 Lawrence, op. cit., p. 336.
often allowed the land to remain fallow in the case of non-availability of sufficient water, because cultivation of other crops was usually unremunerative due to their low return. But exceptions were there and often paddy was followed by the cultivation of mustard\textsuperscript{43}, cotton, pulses and buckwheat\textsuperscript{44} etc.

**Weeding** – Cultivation of paddy\textsuperscript{45}, maize\textsuperscript{46} and cotton required regular weeding. In rice fields weeding was done manually\textsuperscript{47}. In case of both maize and cotton, it was done with the help of hand hoes\textsuperscript{48}. Moreover, the cultivation had to keep strict watch\textsuperscript{49} over certain insects which caused havoc to the young plants of rice. The fresh leaves of *Prangos*\textsuperscript{50}, called *krangos*, were put in the field to poison the insects which damage the crop. Rai\textsuperscript{51} also destroyed and attacked rice and maize. Transplantation of rice plants and weeding of paddy, maize and cotton was done by both men and women\textsuperscript{52}.

**Harvesting** – The harvesting of ‘*Kharif*’ crop took place in the month of September and October and ‘*Rabi*’ crop in the month of June and July\textsuperscript{53}. The sickle\textsuperscript{54} was used for cutting crops. After harvesting, the sheaves of paddy and of other crops were taken to the smashing grounds or to the threshing – floor. When the cereal crops might have been dried up, thereafter they might have been released from the stems through threshing while striking a bunch of cereal

\begin{footnotesize}
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\item G.T. Vigne, *op. cit.*, I, p. 309.
\item Lawrence, *op. cit.*, pp. 336-41.
\item “The *Prangos* was locally called *Krangos*. Its leaves either poison the snails or cause them to descend out of the reach of its influence”: Moorcroft & Trebeck, *op. cit.*, II, p. 134.
\item Lawrence, *op. cit.*, pp. 334, 337.
\end{itemize}
\end{footnotesize}
plants against a wooden log. Then, the entire process led to the collection of grains on the floor containing chaff and straw together\textsuperscript{55}. The farmer’s and the state’s share were divided after the grain had been separated from the straw\textsuperscript{56}.

**Irrigation** – Indeed, the valley of Kashmir is a gift of the Himalayas\textsuperscript{57}. The Jehlum or Beher\textsuperscript{58} and its tributories in the valley, Kishan Ganga in Pahkli, the Shayok and the Indus and their tributories in Ladakh and Baltistan, Chinab, Tohi, Chandarbhaga and a network of streams and rivulets provided water to the fields of the Subah\textsuperscript{59}. But the table lands or karewas were mainly dependent on rains\textsuperscript{60}. Thus the means of irrigation varied in different regions of the Subah. On account of varied topography and geophysical situation various methods of irrigation were adopted in different parts of the Subah. Nevertheless the canal irrigation was almost common throughout the province.

The fields of rice i.e. abi land entailed regular irrigation which was generally rendered possible by countless springs and streams of water discharged by the snowy mountains. As a result of these multiple water channels, the inhabitants of the valley, by and large, had no irrigation

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\item \textsuperscript{55} *Ibid.*
\item \textsuperscript{56} *Ain*, II, pp. 175-76: According to Abul Fazl, “Although one-third had been for a long time past the nominal share of the state, more than two shares was actually taken, but through His Majesty’s justice, it has been reduced to one-half. Also see, Moorcroft & Trebeck, *op. cit.*, II, p. 125 : “When the grain has been trodden out, a division takes place between the farmer and the government : this was formerly an equal division, but the government has advanced in its demands until it has appropriated about seven – eights of the Sar-Kishti and three-fourths of the Pai-Kishti crop”.
\item \textsuperscript{57} According to the *Ain*, It is encompassed on all sides by the Himalayan ranges: *Ain*, Vol. II, p. 169; F. Bernier, *op. cit.*, p. 395.
\item \textsuperscript{58} Veth is the Kashmiri name for the Jhelum; the *Hydaspes* of the ancients; the *Vedasta* or *Vitasta* of the Hindus, and the Beher is the Persian name for this river, but the Jhelum is the Punjabi and Urdu name: *Ain*, II, p. 171; *Tuzuk*, p. 292; *Tarikh-i-Hasan*, Vol. I, p. 68; Lawrence, *op. cit.*, pp. 17-18.
\end{itemize}
\end{footnotesize}
problem. The given sources of water were usually conducted by means of embanked earthen canals terminating in a large river called Jehlum, which is itself originated from a spring called Verinag in South Kashmir. The river water discharged through a gorge at Baramulla in north Kashmir and thenceforth it flowed further down towards Pakhli, Damtoor, Lahore, Multan, Punjab where it finally joined with the river Chinab. Anyhow, several canals terminating into or drawn from the river Jehlum irrigated large tracts of arable land in the nook and corner of the valley. Whereas the pre-Mughal rulers provided great fillip to the canal buildings. As Sultan Zainul Abidin developed the irrigation system by making a number of tanks, canals and dams; but the Mughals and the Afghans did not pay much attention towards the canal building. However, among the two, the former expended adequate amount of money on the repairs and maintenance of the old ones and only a few new canals were built to irrigate the pleasure gardens rather than agricultural land. During the reign of Akbar, Yousuf Khan Rizvi built a canal connecting a

63 To irrigate village Zainagir and its adjacent areas, Sultan Zainul Abidin constructed a dam, the water for which was drawn from the river Pohur: Baharistan-i-Shahi, transl. K.N. Pandit, pp. 68, 72; There is the numerous such canals which were constructed by him – From the waters of river Sind was excavated the Safapur canal to irrigate the area around Mansbal lake. Kakapur canal irrigated the land in and around village Kakapur. Avantipur canal was excavated to irrigate the land in and around village Avantipur. Krala canal was aimed at irrigating the area around pargana Advin. Shahkal or Martand canal was excavated to irrigate the land in village Chakdar. Shahkal or Safapur canal carried the waters of the Sindh river across the district of Lar to the lands around the Mansbal lake: Jonaraja, Rajatarangini, Eng. Transl. from Sanskrit by J.C. Dutt, Kings of Kashmira, Reprinted in LPP, Delhi, 2003, pp. 86-87. The Mar canal or Nalla Mar: Previously the surplus waters of the Dal Lake flowed out into the Jehlum at Hubba Kadal. But Zainul Abidin diverted the waters of the lake into the Mar canal which he extended up to Shadipur where it emptied itself at the confluence of the Jehlum and Sind: Ain, II, p. 171 and its transl. II, pp. 356 & n., Lawrence, op. cit., p. 191; Srivara, Jaina Rajatarangini, Eng. Transl. by J.C. Dutt, op. cit., p. 143; Among the Chak rulers, Daulat Chak constructed canals to irrigate large agricultural fields: Suka, Rajatarangini, Eng. Transl. By J.C. Dutt, op. cit., p. 382; Ain, II, p. 171, and its transl. II, p. 356; Sujan Rai Bhandari, Khulasat-ut-Tawarikh, edited by M. Zafar Hasan, Delhi, 1918, p. 80.
stream known as Nullah Sindh with Baghi-Illahi. According to F. Pelsaert, “Jahangir spent 10,000 rupees for an aqueduct, but the idea was later dropped.” Under Jahangir, some old canals like Lachama Kul, were repaired under the supervision of Malik Haider, and Harvan canal was laid out at the cost of 30,000 rupees, for watering Nur Afza Bagh. During the reign of Jahangir, a tank was also built by Iradat Khan. An officer known as Mir-i-ab (one of the villagers) was appointed over every main channel and whose duty was to regulate irrigation and to repair the canals in each village. To avoid disputes among the villagers on account of water distribution, certain rules for irrigation were introduced by the Mughals. Under Shahjahan, a branch of the Shah Nahar was taken to Nishat Bagh by Asaf Khan. The Altamga grant Farman to Asaf Khan laid down the condition that watering to the garden should not cause hardship to the tenants by reducing their irrigation facilities.

Besides these natural channels, springs too were a source of water for irrigation. There was a large spring in the vicinity of pargana Brang which irrigated around five villages of the said pargana. Most of the interior land beneath the karewas or in the foothills was irrigated by the spring water.
Great distress was caused in cases of scarcity and low supply of water in the springs. But the spring water, however, being cold or extremely cold and at the same time devoid of fertilizing still, its water was not much favoured for irrigation. The Dal Lake in Srinagar was known for the growth of vegetables on floating gardens made of reeds, rushes, dried grass, straw and other rubbish. The water for the cultivation of variety of vegetables was often procured from the wells dug for the purpose. Well irrigation was carried out mostly around the city of Srinagar. No. definite number of such wells is available. The water was lifted with the help of Dhenkli (a lever worked with hand). Vegetables were raised and gardens were irrigated with this type of irrigation. Tanks were probably not built for the purpose of irrigation. The use of Persian Wheel was not in vogue. The table lands depended mainly on rains and in due course of time these karewas were brought under fruit cultivation. According to Pandit Suka, “There the glorious morning, noon and evening indicate themselves by the ebb and flow of water”. Jahangir too has argued, “wherever the eyes reach, there are verdure and running water”. Due to the abundance of water, the villages and hamlets were transformed into fertile and highly cultivated tracts.

74 Ibid; Ibid.
75 Ibid, pp. 171-74; Lawrence, op. cit., p. 324.
76 Lawrence, op. cit., p. 324.
77 Tarikh-i-Hasan, I, p. 156; Moorcroft & Trebeck, op. cit., pp. 137-38.
78 Lawrence, op. cit., p. 324.
79 G.T. Vigne, op. cit., II, p. 130; Lawrence, op. cit., p. 324.
80 Lawrence, op. cit., p. 324.
81 Ibid.
82 Ains, II, p. 179: Here Abul Fazl used the term Lalmi; Also see its transl. II, p. 352 & n.3; Tarikh-i-Hasan, I, pp. 90-99; Lawrence, op cit., p. 17.
83 Tarikh-i-Hasan, I, pp. 90-99; According to Sharfuddin Ali Yazdi, “In the mountains and plains are to be found mainly kinds of fruit-trees, and the fruits are specially good and wholesome: Zafarnamah, vol. II, p. 179.
85 Tuzuk, p. 299; Amal-i-Saleh, II, pp. 18-19.
(D) THE CROPS AND OTHER AGRICULTURAL PRODUCE

The soil of Kashmir was cultivated and the valley of Kashmir was extremely fertile.\(^1\) It produced numerous agricultural crops. The crops were divided into two groups, the *rabi* and *Kharif*. The crops such as paddy, maize, pea, bean, gal and millet were *Kharif* or autumn crops, roughly sown in May-June and reaped in September-October. The other crops sown in October-November and reaped in April-May, were *rabi* or spring crops and they usually consisted of wheat, barley, pulses and mustard.\(^2\) For this purpose, an attempt is, made here to examine the nature, conduct and the process of cultivation of each crops separately as well as individually. There were supposed to be three harvests in the Kashmir valley- *rabi*, *Kimiti*, and *Kharif*. The *kimiti* crops (Abul Fazl calls them *Jinsi kamil* as against *Jinsi-Naqis*) appear to be those that have always had a money value and are *Tilgogloo* (rape-seed), *Sarson* (Panjabi variety of Tilgogloo), Tobacco, cotton, hemp, Sugarcane, Saffron and the like. The distinction is said to date back to the time of Todar Mal and for those crops money was always required, the assessment being calculated in money after division of the produce and the produce being returned to the cultivator. For other crops whether *Kharif* or *rabi* the collection was in kind or the villages were farmed out.

**Paddy**- Rice has been the staple food of the Kashmiris.\(^3\) Paddy or Rice was the principal crop and it was grown extensively throughout the valley. The

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opposite was the case in Kishtwar,\(^4\) and its production was carried in Kishtwar, Rajouri, Pakhli and some areas of Punch.\(^5\) It was grown on the three-fourth of the total arable land.\(^6\) The Abi land was meant for paddy cultivation, which was irrigated by a variety of water resources.\(^7\) According to M.A. Stein,\(^8\) “Rice has as far as we can go back, always been the largest and most important produce of the valley. Its character as the main cereal is sufficiently emphasized by the fact that it is usually referred to in the chronicles by the simple term of dhanya, ‘grain’.”. The crop was generally sown in May-June and reaped in September-October.\(^9\) From sowing to that of harvesting, it was subject to certain conditions, i.e. “heavy snows in winter,” good rains in March; warm days and cool nights from May to August with an occasional shower and fine weather in September”. On the occasions of wedding, watering and watching, the crop entailed a lot of hard work and alertness etc., will be found fully detailed in Mr. Lawrence’s account of Kashmir agriculture.\(^10\) According to Abul Fazl, rice of Rajouri was superior to that of Kashmir.\(^11\) According to Hasan,\(^12\) it had 96 kinds of rice, of which fine varieties were not obtained.\(^13\) Howsoever, among all varieties, “Chogul danyi”, was considered to be the best and sweet, which grown in village Telbal.\(^14\) There were numerous varieties of rice in Kashmir.

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\(^4\) **Tuzuk**, p. 296.


\(^7\) **Ain**, II, p, 169 & Its transl. II, p. 352 & n.3: The land watered from ponds, tanks, lakes and watercourses etc.


\(^12\) **Tarikh-i-Hasan**, vol. I, p. 185.

\(^13\) **Ain**,II, p.170 ; **Tuzuk**. p. 300.

\(^14\) **Tarikh-i-Hasan**, I, p.185.
the two best are the Basmuti, so well Known in India, and one that is called, I think, the lachibul. According to Vigne, the rice of Nipur was considered to be the excellent in Kashmir. According to Moorcroft, the annual production of rice in Zainul-Abidin’s time was seventy-seven Lakhs of Kharwars. The reign of Akbar registered its annual production at sixty-one Lakh Kharwars. When Moorcroft visited Kashmir the annual produce was only twenty Lakhs of Kharwars.

Wheat- Abul Fazl in Akbarnama, has counted Kanak i.e. wheat one among the rabi (spring) crops. Like paddy, wheat was not a principle crop. Little quantity of wheat was produced in the valley, as the area under wheat cultivation was relatively small because of the preference of Kashmiris for rice and also due to the nature of soil. It was grown on one-eighth of the overall arable land and parchana Shahabad yielded superior quality of it. But the grain of the wheat in the valley was smaller and inferior to the wheat cultivated in the plains. A little production of wheat was carried in Little Tibet and it was considered the main agriculture produce. While, wheat production was

16 Ibid, I, p. 324.
18 According to the assessment records of Qazi Ali, the revenue of Kashmir was fixed at 30, 050 Kharwars and 11 traks. Since, the given figure was assessed at the rate of one-half as the state share, the gross produce could be, therefore, reckoned at around 61 lakh kharwars or more: Ain II, p. 176; According to G.T. Vigne, “in the time of the Mughals it was said to be produce not less than 60 lakhs (6,000,000) of kirwahs of rice”: I, p.308.
20 Akbarnama, III, part-II, p. 548; Akbar and the Jesuites, p. 76.
21 Ain, II, p. 170; Tuzuk, p. 301.
22 Ibid. Ibid. Lawrence, op. cit., p. 342.
25 Akbarnama, vol. III, part -II, p. 548; Ain, II, p. 170; Tuzuk, p.301; Irfan Habib, says that the wheat was not raised altogether in the subah of Kashmir is not born out by facts: The Agrarian System, pp. 40-41.
extensive in Kashtawar. According to Abul Fazl, “Wheat is small in grain and black in colour and there is little consumed.” Being a secondary crop, it was entirely dependent upon periodical rains for irrigation and thereby required no weeding, watering or watching. It was sown in September and October and reaped in June. The only variety of wheat grown here was the red one. An attempt was made to introduce the white variety, but it failed.

According to G.T. Vigne, “it is singular that wheaten flour of the valley should be thought very tasteless and insipid when compared with that of the plain, and that bread made from it should be considered to be heating”.

Barley- Abul Fazl, in the Ain-i-Akbari, says that was not grown in Kashmir, is contradicted as well as consisted by his own statement in the Akbarnama wherein he mentions that barley was grown as a spring crop in Kashmir. As a matter of fact, like Pargana Lar, barley was raised elsewhere in the valley too. Barley production was extensive in Kashtawar and introduced into the valley perhaps during our period. In Little Tibet it was the main agricultural products. It was an important crop, if only the area under its

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27 Tuzuk, p. 296.
28 Ain, II, p. 170.
30 Lawrence, op. cit., pp. 341-42.
32 Lawrence, op. cit., p. 342.
34 Ain, II, p. 170.
36 Ibid, Majmuat- Tawarikh, Farsiya Akhbar, MS. No. 148, p. 15; Outside Kashmir, it was grown in Kishtwar: Tuzuk, p. 296; Also see, G.T. Vigne, here he mentioned about the cultivation of barley and other agricultural crops in the ground of Kashmir: op. cit., vol. I, pp. 309, 312.
37 Tuzuk, p. 296.
38 There is a contradiction in Ain, II, p. 170, and Akbarnama, III, part- II, pp. 548-49, about the barley cultivation, it appears that a little barley was raised in the valley; Prof. Irfan Habib, The Agrarian System, p. 41; Also see Lawrence, op. cit., p. 341, holds a contrary view point. According to him, it was extensively cultivated in the valley during 19th century, but not as an important crop.
cultivation is considered. The barley commonly grown in the valley was not of a good quality, and no special care or pains were given to its cultivation. The barley was normally grown on land dependent upon periodical rains; hence, required no weeding or manuring. One or two intermittent ploughings helped in the growth of the plant, the grain of which was often mixed by the millers with wheat and it was not the staple food of the people of Kashmir.\footnote{Lawrence, op. cit., p. 341.}

Besides, the ordinary barley, here we found, one of its peculiar kinds termed grim or Tibetan Barley.\footnote{Ibid. According to Moorcroft, “The barley of Tibet is of two kinds; the first, called Nas swa and the second, called Sherokh, and this second is distinguished into six varieties” : For details see, Moorcroft & Trebeck, op. cit., Vol. I, pp. 274, 276-78.} It was cultivated in villages situated at an altitudes of 7,000 feet and above and it was the staple food of the people residing in those villages. The difference between the ordinary barley and Tibetan barley is that the latter is like wheat, while the ordinary barley has chaff. It was sown in May and June and reaped in August and September.\footnote{Lawrence, op. cit., p. 341.}

Maize – The Mughal sources like, Akbarnama and also Ain-i-Akbari, are silent about the cultivation of the maize in Kashmir. It seems that, perhaps it was not generated in Kashmir till then and was produced only as late as the 18\textsuperscript{th} century. According to Mushtaq A. Kaw, “Gulshan-i-Dastur refers to maize as the most important Kharif crop grown preferably in the hilly areas of the valley”.\footnote{Mushtaq A. Kaw, op. cit., p. 83.} Further he says that although “a fine variety was also raised in the plain areas”.\footnote{Ibid.} It was known in Kashmiri as Makai. The term Makai (Maize) was mentioned in the early 19\textsuperscript{th} century as well as the late 19\textsuperscript{th} century sources like Majmuat- Tawarikh and Tarikh-i-Hasan respectively.\footnote{Majmuat –Tawarikh, MS. No. 148. p. 15; Tarikh-i-Hasan, I, p. 185.} Its plant required
dry and moderate moisture,\textsuperscript{46} its cultivation was, subject to any rare irrigation.\textsuperscript{47} The best soil which suited for its cultivation were the reclaimed swamps and the black peaty lands on the banks of the Jehlum and the mountain slopes occupied by the \textit{Gujars}.\textsuperscript{48} There were two varieties, the red and the white, were grown in the valley. In taste it was very sweet and was preferred by the Kashmiris to the white maize. A \textit{Poonch} variety of maize was also grown in the west of the valley. As a diet maize ranked next to rice and the Kashmiri considered maize without milk unpalatable. Its stalk formed excellent fodder for cattle.\textsuperscript{49}

The \textit{Shol} or \textit{Kangni (gal)} and \textit{millet (Ping)} were other autumn crops, which were grown in Kashmir, as elsewhere, in the \textit{Lar} defile of the valley.\textsuperscript{50} The plant \textit{shol} required dry and moderate moisture.\textsuperscript{51} \textit{Kangni} required much labour and some weeding. It was also not liked by the Kashmiris, because it is said that it produces heat in the body.\textsuperscript{52} According to Lawrence, “\textit{China or Ping} (\textit{Panicum miliaccum}) is very like rice in appearance, but is grown in dry land. The field is ploughed three times….. It is occasionally weeded. As a food it is not considered either pleasant or nourishing, and whereas the \textit{Kangni} is abused for being hot, the \textit{China} is denounced as being cold”.\textsuperscript{53} While jahangir in his \textit{Tuzuk-i-Jahangiri}, mentioned that, Millet production was extensive in Kashtawar.\textsuperscript{54}

\begin{itemize}
\item \textsuperscript{46} \textit{Tarikh-i-Hasan}, I, p.185.
\item \textsuperscript{47} Lawrence, \textit{op. cit.}, p. 337.
\item \textsuperscript{48} \textit{Ibid}, p. 336.
\item \textsuperscript{49} \textit{Ibid}, p. 337.
\item \textsuperscript{50} \textit{Akbarnama}, III. part- II, pp. 548-48; Lawrence, \textit{op. cit.}, pp. 337-38 ; G.T. Vigne, \textit{op. cit.}, vol. I, p. 312.
\item \textsuperscript{51} \textit{Tarikh-i-Hasan}, I, p. 185.
\item \textsuperscript{52} Lawrence, \textit{op. cit.}, p. 337.
\item \textsuperscript{53} \textit{Ibid}, pp. 337-38; According to Hasan, \textit{Ping} required dry and moderate moisture: \textit{Tarikh-i-Hasan}, I, p. 185.
\item \textsuperscript{54} \textit{Tuzuk}, p. 296.
\end{itemize}
Amaranth (Amaranthus) or Ganhar— It was known in Kashmiri as Ganhar and its botanical name is Amaranthus. It was sown either in rows with cotton or on the borders of maize fields. The land necessitated two or three ploughings with no manuring or Watering etc. The plant required dry and moderate moisture. It is said that it also produces heat in the body. It was taken by the Hindus on days of fasts with milk or butter after it had been parched and grounded into flour. Alkaline used to be obtained by washermen after its stalks were burnt.

Buckwheat or Trumba – Trumba is the Kashmiri name for Buckwheat. It was a substitute for rice in the event of crop-failure due to water scarcity. There were two varieties in Kashmir- the sweet and bitter. It was taken in the form of bread or porridge.

Pulses—In the Akbarnama, Abul Fazl has counted pulses (Arzan) one among the rabi (spring) crops; further, he also refers to only Mung, Motah and Mash as contributing to the revenue of the state, as the autumn crop. Abul Fazl in Ain, mentions that grams were not produced in the valley because of

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55 Tarikh-i-Hasan, I, p. 185.
56 Lawrence, op. cit., p. 330.
57 Ibid, p. 338.
58 Tarikh-i-Hasan, I, p. 185.
59 Lawrence, op. cit., p. 338.
60 Tarikh-i-Hasan, I, p. 186.
61 Lawrence, op. cit., p. 338.
62 Ibid. According to Moorcroft: Buckwheat was produced in Ladakh and of buckwheat there were three varieties: op. cit., vol. I, pp. 274, 286-87; According to G.T. Vigne, “Bread made from buckwheat is considered to be very wholesome”: vol. I, p. 324, while, he says that it was cultivated in Kashmir, vol. I, pp. 309, 312.
63 Akbarnama, III, part –II, pp. 548-49; Also see Lawrence, op. cit., pp. 330, 338-39: Mung, Mah, Mothi, Razmah were important pulses grown as autumn crops and Baglah, Karre grown as spring crops in Kashmir, Mung being superior.
64 Ain, II, p. 170; Tuzuk, p. 300; According to Hasan, the plant required hot and moderate moisture: Tarikh-i-Hasan, I, p. 186; According to Lawrence, “Gram is unknown, and the best of the pulses is the Mung”: op. cit., pp. 338-39.
unfavourable soil and climate. Baglah, Chanah, Masoor, Karre, Razmah, and Mung etc; were important pulses grown in Kashmir. The dal or edible vetch of Khampur was considered to be the finest in Kashmir. According to Jahangir “In Kishtwar there are produced much lentils, millet, and pulse”.

Beans (Razmah or Lobiya) and peas too were occasionally cultivated. Anyhow, pulses of all kinds were also raised on the land during the period. The land necessitated three ploughings with no weeding, watering, watching or manuring.

Waternuts (Singhara) – Water chestnut was extensively found in the Wular, Dal and other lakes at Bandipora, Hajin, Sopore and Kamraz defile. It was the staple food of thousands of people living around the lakes. According to Abul Fazl, “The Singhara is a triangular fruit; its creeper grows in tanks, and the fruit is on the surface of the water. It is eaten raw or roasted”. Its three varieties were, Basmati having thin skin, the Dogri having thick skin and the Kangar which was not of good quality. It was taken either raw, parched or fried. It was also dried, ground into flour and then eaten in the form of bread. Its total production for the year 1823 was about ninety-six to hundred and

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65 According to Hasan, Razmah had four varieties, viz; red, white, Khaki and black: Tarikh-i-Hasan, I, p. 186.
66 According to Hasan, Mung has two varieties: Tarikh-i-Hasan, I, p. 186.
68 Tuzuk, p. 296.
69 Majmuat-Tawarikh, MS. No. 148, p. 15.
70 According to Jahangir, “If they sow Peas, they give a crop the first year; in the second, they are inferior and in the third, they are like Mushang (a small pea)”: Tuzuk, p. 300; According to Hasan, the plant required dry and moderate moisture: Tarikh-i-Hasan, I, p. 186; Lawrence, op. cit., pp. 330,339.
71 Majmuat-Tawarikh, MS. No. 148, p. 15.
72 Lawrence, op. cit., pp. 338-39.
74 Ain, I, p. 51.
75 Lawrence, op. cit., pp. 354-55.
twenty thousand ass-loads a year.\textsuperscript{76} The tax levied on the extraction of \textit{Singharas} alone from \textit{Wular} lake was about Rs. 1,00,000.\textsuperscript{77} The \textit{Hanjis} collected \textit{Singhara} in boats and the contractors purchased the nuts and transported them to the city for sale or disposal.\textsuperscript{78}

**Saffron-** According to M.A. Stein, “Kalhana in his introduction designates saffron and grapes among “the things that even in heaven are difficult to find but are common there”.\textsuperscript{79} Saffron (\textit{Kunkuma}) has to the present day remained a famous product of Kashmir. Its cultivation has apparently from an early time specially flourished about \textit{Padmapura}, the present \textit{Pampur}, where the \textit{Udar} lands are still chiefly utilized for it.\textsuperscript{80} It was extensively cultivated with the main purpose of marketing; it thus held tremendous importance from the commercial point of view. Of all the important cash crops, the saffron (\textit{crocus sativus}) of Kashmir was famous for its bouquet and medicinal properties and it was, however, raised at two places in the valley \textit{Pampore}\textsuperscript{81} and \textit{Inderkot}.\textsuperscript{82} According to Hasan, it was cultivated on the \textit{Karewas} of \textit{Pampur} and of the total land about one thousand and twelve \textit{bighas}

\textsuperscript{76} Moorcroft & Trebeck, \textit{op. cit.}, p. 136; According to C.E. Bates “the most valuable product of the uncultivated vegetation is the \textit{Singhara} or horned waternut, called by the Kashmiris \textit{gari}, \textit{goru} or \textit{gor}. It grows on the bottom of the \textit{Wular} lake in such profusion that 60,000 tons are, it is said, raised every year, constituting almost the only food of at least 30,000 persons for five months in the year. The nut is dried and then formed into a flour or meal, of which cakes are made; these the Kashmiris eat with salt, ghi, and flesh” : \textit{A Gazetteer of Kashmir}, pp. 48-50.
\textsuperscript{77} Moorcroft & Trebeck, \textit{op. cit.}, p. 127.
\textsuperscript{78} Mushtaq A. Kaw, \textit{op. cit.}, p. 86.
\textsuperscript{80} \textit{Ibid}; Abul Fazl mentions it also in the same locality: \textit{Ain}, II, p. 172.
\textsuperscript{81} It was one of the dependencies of the \textit{Pargana Vahi} : \textit{Ain},II, p. 172; Its ancient name was \textit{Padampur} and its modern name is \textit{Pampore Aim}. II , transl. p. 358 & n.1, p. 390;
\textit{M.A. Stein, op. cit.}, II, pp. 450, 459; \textit{Akbarnama}, III, Eng. Transl. pp. 957, 996, 1087, 1095; \textit{Pampore} was a town situated on the banks of the rive Jehlum. It was famous for saffron cultivation and was distant from the city of Srinagar by 3 Kroh (by road) and 5 Kroh (by river) : \textit{Amal-i-Saleh}, vol. II, pp. 31-32 ; Lawrence, \textit{op. cit.}, pp. 342-43 ; ‘It was used as a frequent condiment and medicine’ : Wilson H. H., \textit{Gazetteer of Kashmir And Ladakh}, p. 53.
\textsuperscript{82} It was one of the dependencies of \textit{pargana Paraspur Aim }, I, pp. 63-64 & Its transl. I, p. 90; Here, \textit{Inderkot} has been written as \textit{Indrakol}, but in vol. II, on page 177, as \textit{Indarkol}. 
was fit for the cultivation. Outside the valley of Kashmir, it was grown at 
*Kishtwar* also. The saffron of *Kashtwar* was superior to that of Kashmir. Further, Jahangir’s argument that except at *Pampore*, Saffron was cultivated nowhere in the valley. Its cultivation extended for about 10 or 12 thousand *Bighas* or twelve *kos* in *Pampur* and over a tract of land approximately spread over one *Kos* in *Inderkot*. According to Jahangir, Anyhow, its annual production was four hundred maunds; further he says that an adequate quantity about which Jahangir opined “it is not know whether such a huge quantity is grown anywhere in the world”. Under the Mughals a large area was brought under the cultivation of saffron.

The season of cultivation of saffron was usually begun towards the close of the month of March or the beginning of April. The land was ploughed up; rendered soft and prepared with the spade for planting the saffron seed (bulb) in the sloppy ground, which required no manures. According to Abul Fazl, “When the bulb has been put into the ground, it will produce flowers for six years, provided the soil be annually softened. For the first two years, the

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83 *Tarikh-i-Hasan*, I, pp. 97-98 ; "There were five Karewas on which saffron was cultivated, all in the neighborhood of *Pampur*, and all on the right bank of the Jhelum, between the river and the mountains------.” H.H. Wilson, *Gazetteer of Kashmir and Ladakh*, pp. 53-54.
84 *Tuzuk*, p. 296.
87 *Tuzuk*, p. 315; *Iqbalnama-i-Jahangiri*, p. 168.
88 According to Jahangir, “The annual crop is 500 *maunds* by Hindustan weight, equal to 5,000 *Wilayat* (Persian) *maunds*” : *Tuzuk*, p. 45.
89 *Akbarnama*, III, Eng. Transl. pp. 996-997 The production in the year A.H. 1002/A.D. 1593 increased to 90,000 *traks* which appears to be a highly exaggerated quantity. According to *Ain*, it was raised on 10,000 to 12,000 *bighas*, vol. II, p. 172; According to *Tuzuk*, the production was about 500 maunds, p. 45; G.T. Vigne, says that, “the Saffron-grounds of *Pampur* occupy a space of ten or twelve miles in circumference, and are said to be composed of the richest soil in the valley------.” *op. cit.*, vol. II, p. 33 ; *Ain*, II, p. 172; *Ain*, I, p.63-64; “The ground is ploughed up four or five times, then raised in parterres of two or three yards square, and in every parterre about the 20th of June is planted six *seer* (nearly twenty-four pounds) of roots, at two fingers’ breadth apart” : G.T. Vigne, *op. cit.*, vol. II, p. 33 ; *Lawrence* says that the sloping –ground is required for planting the saffron seed, *op. cit.*, p. 343.
90 *Ain*, II, p. 172; *Lawrence*, *op. cit.*, p. 343.
flowers will grow sparingly; but in the third year the plant reaches its state of perfection. After six years the bulbs must be taken out; else they get rotten. They plant them again on some other place; and leave the old ground uncultivated for five years”; to regain the fertility. Ultimately, towards the month of September white stalks appeared on the bulb to the height of a finger followed by the sprouting of buds which yielded flowers on the top of each stalk. Each flower produced six stamens and six lilac-tinted petals and each bulb gave crops for three consecutive years after which it was dug up and transplanted elsewhere lest the bulb should get destroyed if left in the same soil. Saffron was perhaps the only exception among all crops wherein the state demanded the services from the peasantry even after the harvesting and divisioning of the crop was complete. After processing, the saffron leaves were dried in the sun and the three long stigmata were picked out by the hand. The orange red tip of the Stigmata was called *Shahi Zafran*. Tobacco—Tobacco was grown as autumn crop. Abul Fazl does not mention about this crop in his account as tobacco cultivation appears to have been introduced in the 18th century. Its cultivation was carried under the
Afghans too\textsuperscript{98} and the tobacco of \textit{Jehamu} was considered to be the finest in the valley.\textsuperscript{99} However, its cultivation remained restricted.\textsuperscript{100} Whatever little quantity was produced in the valley was relatively inferior to that grown elsewhere.\textsuperscript{101} It was grown too in the \textit{Suru valley}.\textsuperscript{102} Nonetheless, tobacco was chiefly grown in and around Srinagar and the smaller towns and the tobacco which produced in the proper city of Srinagar was rated as the best of all little quantity cultivated in the valley. Tobacco finds mention in the valley of Kashmir as a crop contributing to the state revenue. Walter Lawrence says that “Formerly the state took tobacco as revenue”\textsuperscript{103} The plant required dry and hot temperature.\textsuperscript{104}

\textbf{Hemp}—Jahangir’s account does mention this crop as “the bang (Bhang) of \textit{Kakapur} is well-known. It grows wild on the bank of the river in quantities”.\textsuperscript{105} The plant required dry and cold temperature.\textsuperscript{106} It was only used in the manufacture of an intoxicating drink called \textit{charas}, and for smoking.\textsuperscript{107} It was the custom from the ancient time to reserve some land on either side of the Jehlum for the growth of \textit{Bhang}, and sometimes hemp seeds were also thrown.\textsuperscript{108} The pulp of the \textit{bhang} fibre was always used for making the once famous Kashmiri paper\textsuperscript{109} and also for making strong and durable

\textsuperscript{98} G.T. Vigne, \textit{op. cit.}, I, pp. 324-25.
\textsuperscript{100} G. T. Vigne, \textit{op. cit.}, I, p. 324.
\textsuperscript{101} \textit{Ibid}.
\textsuperscript{102} H.H. Wilson, \textit{Gazetteer of Kashmir And Ladakh}, p. 52.
\textsuperscript{103} Lawrence, \textit{op. cit.}, pp. 345-46.
\textsuperscript{104} \textit{Tarikh-i-Hasan}, I, p. 168.
\textsuperscript{105} \textit{Tuzuk}, p. 312; F. Bernier, \textit{op. cit.}, also mentions this crop as hemp in his account: p. 397.
\textsuperscript{106} \textit{Tarikh-i-Hasan}, I, p. 173.
\textsuperscript{107} Lawrence, \textit{op. cit.}, p. 67; H.H. Wilson, \textit{Gazetteer of Kashmir And Ladakh}, p. 52.
\textsuperscript{108} \textit{Ibid}.
\textsuperscript{109} \textit{Ibid}, p. 69.
ropes,\textsuperscript{110} called sel. Its fibre was also used for making a curse cloth for grain-bags and even for personal wear, called bhangela.\textsuperscript{111}

\textbf{Cotton} - The earliest reference about the cultivation of the cotton plant is distilled from the Persian sources like \textit{Waqiat-i-Kashmir} and \textit{Gushan-i-Dastur}.\textsuperscript{112} From this it appears that the plant was not usually grown during the intervening period. By the 19\textsuperscript{th} century, the crop was grown all over the valley.\textsuperscript{113} It was sown in the spring, and chiefly upon the karewas requiring mild irrigation,\textsuperscript{114} was remunerative.\textsuperscript{115} However, during the Afghan rule, “cotton was formerly produced in considerable abundance, was of good quality, and sold for six lb. a rupee”.\textsuperscript{116} It could be grown in Kashmir in every different conditions or in every variety of situations. An attempt was made to introduce the \textit{Nankin} or brown cotton of Yarkand, but after the third sowing it degenerated (white cotton).\textsuperscript{117} Whereas its fibre was used in textile manufacture, its seed was useful as food for cattle, and from which they also obtained oil.\textsuperscript{118} During the Afghan period, it was a source of agricultural taxation.\textsuperscript{119}

\textsuperscript{110} Ibid; H.H. Wilson, \textit{Gazetteer of Kashmir And Ladakh}, p. 52.
\textsuperscript{111} H.H. Wilson, \textit{Gazetteer of Kashmir And Ladakh}, p. 52.
\textsuperscript{112} \textit{Waqiat-i-Kashmir}, Habib Ganj collection 32/150 f. 269b; & Its Urdu translation by Dr. Khawaja Hameed Yezdani, Lahore. 1995, p. 542: Cotton cultivation was not so extensive; Mushtaq A. Kaw, \textit{op. cit.}, p. 87.
\textsuperscript{113} G.T. Vigne, \textit{op. cit.}, vol. I, pp. 311-12; Lawrence, \textit{op. cit.}, p. 340-41.
\textsuperscript{114} G.T. Vigne, \textit{op. cit.}, vol. I, pp. 311-12; “Cotton (pham) is grown, but not extensively; and chiefly upon the wudars, as it does not require much irrigation”: C.E. Bates, \textit{A Gazetteer of Kashmir}, p. 52; H.H. Wilson, \textit{Gazetteer of Kashmir And Ladakh}, p. 52.
\textsuperscript{115} Lawrence, \textit{op. cit.}, p. 341.
\textsuperscript{116} G.T. Vigne, \textit{op. cit.}, vol. I, pp. 311-12.
\textsuperscript{117} Moorcroft & Trebeck, \textit{op. cit.}, part III, Ch. II, vol. II, pp. 154-55: According to him, cotton was sown in May and was gathered in September and October; H.H. Wilson, \textit{Gazetteer of Kashmir And Ladakh}, p. 52; C.E. Bates, \textit{A Gazetteer of Kashmir}, p. 52; According to Hasan, the cotton (Tattoo in Kashmir) plant required dry and hot temperature, \textit{Tarikh-i-Hasan}, I, p. 173.
\textsuperscript{118} Lawrence, \textit{op. cit.}, p. 341.
\textsuperscript{119} Majmuat-Tawarikh, MS. No. 148, p. 15.
Sugarcane—Sugarcane cultivation though introduced by Sultan Zain-ul-Abidin probably vanquished in the Mughal period. According to G.T. Vigne, “the sugar-cane will not thrive in Kashmir; its climate is not warm enough”. In the Gazetteers we find that plant will not thrive in Kashmir, the climate being too rigorous; but further, in one of the Gazetteers here it mentioned that the plant has even been introduced at Punch, which is 3,300 feet above the sea. In the plains below Jamu it thrives well without irrigation.

Oilseeds—oilseeds were very important to the Kashmiris because traditionally they preferred oil to ghee. “The Kashmiris do not use ghi (clarified butter) in their food, but they require vegetable oils, and at present they use these oils for lighting as well as for cooking purposes”. Jahangir, in his Tuzuk, says that “those who want to have something tasty put a little walnut-oil into the vegetables. They also use cow-oil (raughan i.e., ghi), but this is taken fresh, and fresh from newly-made butter (Maska)”. There were several varieties of oil-Seeds, which formed part of the agricultural produce in Kashmir. In Akbarnama, Abul Fazl mentioned Mustard as a chief crop contributing to the State revenue and it was grown all over the valley as a spring crop. The mustard plant required dry and hot temperature. Rape-seed or Tilgoglu was considered a principal crop among other oil-seeds and it was grown as spring

120 Jonaraja, Rajatarangini, Eng. Trans. J.C. Dutt, III, Second series, p. 97: “He planted the country round Maritanda with Sugarcane…….”.
123 Ibid.
124 Lawrence, op. cit., p. 339; G.T. Vigne, sways that, “Nine people out of ten eat oil with their food instead of ghi or clarified butter. It is chiefly extracted from the apricot and the almond, but there are other kinds also”: op. cit., vol. II, p. 141.
125 Tuzuk, pp. 300-301.
crop in Kashmir. Of which there were three varieties in Kashmir and these were Tilgoglu, Taruz or Sarshaf and Sandiji. The plant required wet and hot temperature. The two other oil seeds such as Flax (alish) and Sesame (Til) which were raised in the valley as a spring and as an autumn crop respectively. The walnut tree flourished in remarkable manner in Kashmir. Its oil was extensively used for all culinary purposes and for illuminating purposes it was mixed with linseed (alsi) and other oils. Oil extracted from it constituted an important item of domestic consumption; it was economical too. Its plant required dry and hot temperature. The oil –seeds thus grown were consumed for cooking as well as lighting purposes. “The Kashmiris say that rape-seed gives the best oil for lighting purposes, and linseed for eating, but as a matter of fact one never gets a pure oil from the press, as the various seeds are mixed by the oil-pressers termed Telis (who, in lieu of their services, retained some oil and oil cakes which were later on used as cattle food.) and further mixed with the Kernels of the walnut and apricot”.

Vegetables— Several varieties of vegetables formed a part of the agricultural produce in Kashmir. Vegetable cultivation was extensive and varied all over the Subah but it was more profuse in the valley. The famous

130 Ibid.
134 Moorcroft & Trebeck, op. cit., pp.148-49; “Walnut-oil is exported to Tibet, and brings a considerable profit. By ancient custom the crop of nuts was equally divided between the government and the owner of the tree, but at present the former takes three -fourths, leaving but one-fourth to remunerate the farmer; H.H. Wilson, Gazetteer of Kashmir And Ladakh, pp. 46-47; C. E. Bates, A Gazetteer of Kashmir, pp.46-48.
137 Ibid.
vegetable gardens were located around the city of Srinagar on the banks of *Dal* Lake.\(^{139}\) *Pargana Phak* was rich in various kinds of herbs and plants.\(^{140}\) Adjoining to it was the famous *Dal* lake on the surface of which existed a number of floating islands. Cultivators produced various kinds of vegetables thereon, which sufficient for the town’s folk.\(^{141}\) Village *suibug* in *pargana Machihama* was exceedingly known for various kinds of vegetables.\(^{142}\) Almost every tenant had a plot reserved for vegetable cultivation.\(^{143}\) Qualitatively and quantitatively rich vegetables like beans, *knol khol* turnips, radish, spinach, carrots, Pumpkins, white beans, cucumbers, lettuce, potato, onions and chilly were mainly produced.\(^{144}\) Potatoes were introduced in the 19th century.\(^{145}\) Chillies were introduced in 18th century \(^{146}\) and large quantities were raised around Srinagar.\(^{147}\) According to Abul Fazl, large quantities of vegetables were exported for the imperial kitchen from Kashmir.\(^{148}\)

**Fruits** – Several varieties of fruits also formed a part of the agricultural produce in Kashmir. Even before annexation, Kashmir was famous for her delicious fruits of various kinds.\(^{149}\) In the pre-Mughal writings (*Tarikh-i-Firishta* and *Tarikh-i-Rashidi*) found that in Kashmir fruits were grown in such

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140 *Ain*, II, p. 173.


147 Lawrence, *op. cit.*, p. 347.


149 *Tarikh-i-Firishta*, vol. II, p. 334; *Tarikh-i-Rashidi*, p. 425.
abundance that they were rarely bought or sold. The owner of a garden and the man who had no garden were all alike, for the gardens had no walls, and no one was prevented from picking the fruits.\textsuperscript{150} In the words of Mirza-Haider Dughlat: “pears, mulberries, sweet and sour cherries are met with, but the apples are particularly good”.\textsuperscript{151} Fruits such as mulberry sour cherry, sweet cherry, grapes, plums, pomegranate, apple, quince, peach, walnut and Fig etc. find a particular reference in the \textit{Tariikh-i-Firishta}.\textsuperscript{152} But during the Mughal rule large tracts of land were brought under orchards. New varieties were introduced besides the improvement of the existing fruits through grafting.\textsuperscript{153} But according to Hugel “Grafting or improving their trees in any way seems unpractised among them, probably unknown” in Kashmir.\textsuperscript{154} Before Akbar’s reign there had been no cherries (\textit{Shahalu}) in Kashmir. But now Mohammad Quli Afshar, an expert in horticulture, brought them from Kabul and Planted them in the valley through grafting so that by the reign of Jahangir one noticed a couple of such trees in existence. Their taste was better than most fruits.\textsuperscript{155} \textit{Shahalu} of Kashmir was not inferior to that of Kabul. In the initial stage the cultivation was restricted to imperial gardens only, but later Jehangir directed the Jagirdars and revenue officials to popularise the new varieties.\textsuperscript{156} Jahangir says that there were also some apricot –trees. But by means of grafting, apricot trees were now became

\textsuperscript{150} \textit{Ibid. Ibid.}
\textsuperscript{151} \textit{Tariikh-i-Rashidi}, p. 425.
\textsuperscript{152} \textit{Tariikh-i-Firishta}, p. 334.
\textsuperscript{153} \textit{Tuzuk}, pp. 299-300, 306-308; However, Bernier considered Kashmir fruits inferior for he understood that the Kashmiris were not conversant with the art of grafting as the French were: \textit{op. cit.}, p. 397.
\textsuperscript{154} Baron Charles Hugel, \textit{Travels in Kashmir and the Panjah.} Reprinted, 2000, Delhi, p. 96.
\textsuperscript{155} But in the words of Mirza Haider Dughlat, “Besides pears, mulberries, both sweet and sour cherries are met with” : \textit{Tariikh-i-Rashidi}, p. 425 ; we also found a particular reference of both sweet and sour cherries in \textit{Tariikh-i-Firishta}, II, p. 334 ; \textit{Tuzuk} , pp. 300, 306-8; \textit{Iqbalnama-i-Jahangiri}, p. 151.
\textsuperscript{156} \textit{Tuzuk}, pp. 306-8.
Experiments were carried on in cultivating mangoes and other kinds of Indian fruits, but with little success. Guavas (Amrood), a variety of pear was cultivated in the valley as well as in Pakhli and Kashtawar.

There were pears (nashpati) of the best kind, better than those of Kabul, or Badakhshan, and nearly equaled to those of Samarkand. Almonds, peaches and Pomegranates were not unknown to the valley. The guavas were middling but grapes were plentiful. According to Pandit Suka, “All the Muggulas, who received presents of Grapes from the cultivators and tasted them, acknowledged that they were superior to the nectar from the lips of their wives”. But according to Abul Fazl and Jahangir “grapes are plentiful, the finer qualities are rare and most of them are harsh and inferior. In ancient times grapes were extensively cultivated and were of good quality. They were once plentiful at Martanda where both Kalhana and the fourth chronicle mention them, and at many other localities. These were also used for making wine. But with the passage of time, their cultivation was discouraged and manufacturing of wine was also banned under the Afghan Government. The produce of grapes was now restricted to a few old gardens at the mouth of the Sind valley and to the new vineyards established on the Dal shores by the late

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159 According to Prof. Irfan Habib, Guava was not cultivated during the Mughal period on any pary of the Empire, but was introduced in 19th century. So far the word amrood is concerned, it was a specie of pear: The Agrarian System, p. 55 & n; Ain I, pp. 45-46. But in the contemporary Chronicles we have both the words Nashpati and Amrood: Tuzuk, pp. 291, 300; Iqbalnama-i-Jahangiri, p. 152; There are various kinds of Pears found in Kashmir like Nakh, Gosh Bugi and Har Nakh etc. but the guava is not raised even now: Lawrence, op. cit., pp. 350-51.
160 Tuzuk, pp. 291, 296, 300.
163 Ain, II, p.,170; Tuzuk, p. 300; Iqbalnama-i-Jahangiri, p. 152.
Maharaja for the cultivation of French vines. It seems that during the sikh rule the ban was lifted and they encouraged its cultivation for making wine.\textsuperscript{166} The quality of indigenous grapes was also improved side by side,\textsuperscript{167} the vines were allowed to grow on the poplars and mulberry trees.\textsuperscript{168} Baghi Dilawar Khan was a famous site for vine-culture\textsuperscript{169} and there were more than 18 varieties raised in Kashmir.\textsuperscript{170} Superior varieties were cultivated in Lar\textsuperscript{171} and were also produced in the garden of Raipur\textsuperscript{172} and of Shah Sahib\textsuperscript{173} near the Dal lake. Plums and mulberries were also grown in Kashmir.\textsuperscript{174} Mulberries were cultivated for its silk, however, its fruits, were not liked.\textsuperscript{175} But according to G.T. Vigne “the mulberries are of good flavour”.\textsuperscript{176} In the Gazetteer of Kashmir and Ladakh found that “the mulberry grows very abundantly in Kashmir and the people eat largely of the fruit, of which they are very fond…….. The leaves form a valuable fodder of cattle” also.\textsuperscript{177} The apples of Kashmir were celebrated all over the world.\textsuperscript{178} The author of Tarikh-i-Hasan, gives 47 varieties of apples including wild.\textsuperscript{179} Fruits such as Apricots, Peaches, Pears, Quince, Almonds, 

\begin{thebibliography}{99}
\bibitem{166} Ibid.; for a detailed account of Kashmir- grapes and wine grapes, see Lawrence, \textit{op. cit.}, pp. 351-52.
\bibitem{167} Moorcroft & Trebeck, \textit{op. cit.}, part III, ch II, vol. II, pp. 150-51.
\bibitem{168} \textit{Ain}, II p. 170; \textit{Tuzuk}, p. 300; \textit{Iqbalnama-i-Jahangiri}, p. 152; Moorcroft & Trebeck, \textit{op. cit.}, pp. 150-51.
\bibitem{169} G. T. Vigne, \textit{op. cit.}, II, p. 86.
\bibitem{170} Moorcroft & Trebeck, \textit{op. cit.}, p. 150; According to Hasan, there were 19 varieties raised in Kashmir and by the author of \textit{Tarikh-i-Hasan}, Maska, Sahibi, Hussainee and Kishmishee were excellent: \textit{Tarikh-i-Hasan}, I, p. 183.
\bibitem{171} \textit{Akbarnama}, III, part-II, p. 733.
\bibitem{172} Lawrence, \textit{op. cit.}, p. 351.
\bibitem{173} G. T. Vigne, \textit{op. cit.}, II, p. 86; Lawrence, \textit{op. cit.}, p. 351.
\bibitem{174} \textit{Tarikh-i-F rishta}, II, p. 334; \textit{Tarikh-i-Rashidi}, p. 425; \textit{Ain}, II, p. 170; \textit{Khulasat-Tawarikh}, p. 83; \textit{Tarikh-i-Hasan}, I, pp. 183-84.
\bibitem{176} G. T. Vigne, \textit{op. cit.}, II, p. 86.
\bibitem{177} H.H. Wilson, \textit{Gazetteer} of Kashmir And Ladakh, pp. 45-46.
\bibitem{179} \textit{Tarikh-i-Hasan}, I, p. 183; Lawrence in the \textit{Valley of Kashmir} also enumerates its several varieties. For detailed description of apple cultivation, see pp. 349-50.
\end{thebibliography}
Walnuts, plums, Grapes, cherries, Pistachio nuts, Melons, Water-melons, and various kinds of apple were cultivated all over the Subah.\textsuperscript{180} Apricots of delicious flavour were the cherished fruit of Little and Greater Tibet.\textsuperscript{181} On account of extensive cultivation of the apricots, Baltistan was known as Tsera Botun.\textsuperscript{182} Apples and Apricot, grapes, peaches, melons, and mulberries were also grown in this region.\textsuperscript{183} Both sour and sweet quinces were found in the valley and its seeds were exported to the Panjab.\textsuperscript{184} Almonds and walnuts were grown in abundance, pistachio were also grown in the valley but not extensively.\textsuperscript{185} There were four varieties of walnuts; one called Khanak and the other three, termed wantu, dunu, and kaghazi, were cultivated. These were consumed by the people and oil was extracted from its Kernel. The oil was exported to Tibet and was a source of profit.

The husk of the ripe fruit was used for purposes of colouring.\textsuperscript{186} “By ancient custom the crop of nuts was equally divided between the Government and the owner of the tree, but at present the former takes three-Fourths, leaving but one fourth to remunerate the farmer; yet under this oppression the cultivation of the walnuts extended, and Kashmir, in proportion to its surface, produces a much larger quantity of nuts than any portion of Europe”.\textsuperscript{187}
Pomegranates were grown everywhere in the Subah. Bernier says that “the private gardens are full of melons, pateques or water-melons, water parsnips, red beet, radishes, most of our potherbs, and others with which we are unacquainted”. The melons and watermelons excelled in flavour and sweetness and the melons were very sweet though they often got spoiled due to a worm. According to Lahori, “melons of Kashmir were superior to those of Kabul”. Wine was distilled from the mulberries. A reference to wine and vinegar is also found in the records. Best pickles were made with vinegar as an ingredient. Since kashmiri produced garlic, its good quality was considered the best pickle. The much better flavoured and more delicate juicy fruit was that of Ashkan. It was subacid smaller than the alu-balu (sour cherry) termed ‘aluchi in Kashmir. The Shah-alu of Kashmir was not inferior to that of Kabul. In view of the cold temperature and abundant snowfall, fruits such as lemons, dates and oranges were not grown in the valley, these were imported from the neighbouring warm regions. It may be said that almost all the horticultural products that exist in a temperate climate can be grown in the vale of Kashmir.

188 Tuzuk, p. 300; Iqbalnama-i-Jahangiri, p. 152; According to Hasan, there were three varieties of pomegranates in Kashmir: Tarikh-i-Hasan, I, p. 184; Lawrence, op. cit., p. 351.
189 Bernier, op. cit., p. 396.
191 Ibid, p. 300.
196 Tarikh-i-Rashidi, pp. 430-31.
197 Both for the method as well as the temperature, which employed for the cultivation of fruits: see, Tarikh-i-Hasan, I, pp. 180-85; Lawrence, op. cit., pp. 348-55.
Besides, Kashmir valley abounds in dense forests and pastoral land which provided sufficient grazing for sheep and cattle. In the Kashmir we also find that the several plots located in different *parganas* and villages were earmarked for grazing purpose and others. For example, *pargana Beeru* exemplified such pasture ground the grass of which contained fattening properties. Hasan, in *Tarikh-i-Hasan*, gave a detailed account of the meadows of Kashmir, ‘which are refreshing and have beautiful flowers and green grass in them. In summer, the shepherds and herdsmen carry their animals to these meadows for grazing and bring them back in the month of *Katak*.’ The village *Dakhamun* is covered with particles of straw and rubbish. The *pargana Phak* grow a variety of herbs and plants. The *pargana Shahabad* was overgrown with nettler and wild hemp. It was famed for the excellence of wheat and orchards. It was also overgrown with weeds and jungle.

Forests of Kashmir, which produced a great variety of timbers, that of the deodar, walnut, willow, plane (*Chinar*), mulberry, poplar etc. The timber yield from these forests were employed in building boats, house, bridges etc.

200 *Ibid*.
204 *Ibid*.
The timbers were also used an excellent fuel and also found one of the most charming objects in Kashmir.\(^{209}\)

A large cattle population existed in Kashmir due to dense forests and large tracts of land earmarked for the pasturage.\(^ {210}\) Kashmir had greater manure resources, owing to the large number of cattle heads, sheep and goats and an abundance of fuel.\(^ {211}\)

Abul Fazl, in his account writes about the animals and birds of Kashmir, that ‘they have a species of sheep which they call Handu, delicate and sweet in flavour and wholesome. Apparel is generally of wool, a coat of which will last for some years. The horses are small, strong, and traverse difficult ground. There are neither elephants nor camels. The cows are black and ill-shaped, but give excellent milk and butter.’\(^ {212}\) Further he writes that ‘Maru Adwin adjoins Great Tibet where the Handu is found of the best breed and large in size, and carries heavy burdens.’\(^ {213}\) ‘In the vicinity of Wular, the Kashmir stag is found in numbers.’\(^ {214}\) ‘In the village of Bazwal, fish are caught in numbers.’\(^ {215}\) ‘In the village of Matalhamah is a wood in which is a heronry, the feathers are taken for plumes, and the birds are here regularly fed.’\(^ {216}\) According to Jahangir, ‘there are no buffaloes, and the cattle are small and inferior. They also use cow-oil (raughan-i.e. ghi)----. There are tailless sheep, resembling the kadi (or gaddi) of India. They are called handu, and their flesh is not without

\(^{209}\) Lawrence, *op. cit.*, pp. 78-82; Also see Bernier, *op. cit.*, pp. 399-400; *Ain*, II, p. 175; *Tuzuk*, pp. 45, 304, 314.


\(^{211}\) Lawrence, *op. cit.*, pp. 321-22.

\(^{212}\) *Ain*, II, p. 170.


\(^{214}\) *Ibid*.


flavour. Fowls, geese, and ducks (murghabi) golden and others- are plentiful. There are all kinds of fish, both with and without scales, but they are inferior.’

Further Jahangir writes that, ‘again, among the excellencies of Kashmir are the plumes of feathers (kalgi) and the hawks.’

Most valuable product of animal was musk, which was extracted from musk-deer found in Baltistan or Lesser Tibet and Gilgit and yak-tails, taken from a species of cow peculiar to Great Tibet, and were an item of export.

Allied with agriculture and horticulture, bee farming was important in the rural economy of Kashmir. The abundance of fruits and flowers made honey an important product of Kashmir. It was not only collected from the hives of wild bees, but also from those of bees domesticated by peasants. In Kashmir it served as a substitute for sugar.

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217 Tuzuk, pp. 300-301.
218 Ibid, p. 315.
(E) CROP YIELDS

We do not get much information about the per-unit crop yields of Kashmir suba during the Mughal period. It is, however, in Akbarnama, Abul Fazl1 provides some brief information on the revenue rates of several crops of Kashmir suba. Other 18th century source like Gulshan-i-Dastur 2 provides valuable information about per-unit crop yields. These two 16th century and 18th century sources help us to build up data of per-unit crop yields. To quote Abul Fazl, “…………..In India the land is divided into plots, each of which is called a bigha. In the delightful land of Kashmir every plot is called a patta. This should be one bigha one biswa according to the Ilahi gaz, but the Kashmiris reckon 2 ½ pattas and a little more as one (Kashmiri?) bigha. By agreement with the government (Diwan) one –third of the produce is paid as revenue. In accordance therewith every village has been assessed at a certain number of Kharwars of rice. The same amount of Kharwars is demanded every year without any fresh investigation. The Kharwar is 3 mans 8 Sirs Akbarshahi. Sometimes they reckon by the trak, which is eight royal (i.e. Akbarshahi) sirs. Of the spring (rabi) crop they take for one patta of wheat, barley, pulses, and mustard, two traks as the share of the ruler……….and that in the autumn-crop there was taken from that extent of Shali 12 (rice) (land) one Kharwar, from mung, motah and mash, two traks, from gal and millet four traks. ……..” 3 However, we need to compare it with the most indispensable source like Gulshan-i-Dastur that provides or gives us the most valuable account on the subject matter. On comparison, several or many marked

1 Akbarnama, III, part-II, pp. 548-49.
difference is visible in these figures. “……….. Every unit of land carried a
distinct value determined by its varying quality and the productivity. In view of
this, land had three categories, viz; *ala* (superior), ‘*ausat*’ (middling) and *adna*
(inferior). Superior land was always plain whereas inferior type was generally
uneven in shape.” ⁴ For the above simplification, the information is reproduced
in the Table-I and Table-II which are based on sources *Akbarnama* ⁵ and
*Gulshan-i-Dastur*⁶ respectively.

**TABLE – I**

**1ˢᵗ SOURCE AKBARNAMA**

**PER-UNIT CROP YIELDS IN TRAKS & KHARWARS**

<table>
<thead>
<tr>
<th>S. No.</th>
<th>Name of the crop</th>
<th>Kind of the crop</th>
<th>Unit of the land</th>
<th>Revenue rates representing the ruler’s third share from the gross produce</th>
<th>Average produce per <em>trak</em> as supposed</th>
<th>Average produce per <em>kharwar</em> of 16 <em>trak</em></th>
</tr>
</thead>
<tbody>
<tr>
<td>1-</td>
<td>Wheat</td>
<td>Spring</td>
<td>1 <em>trak</em></td>
<td>2 <em>trak</em></td>
<td>6 <em>trak</em></td>
<td>6 <em>Kharwar</em></td>
</tr>
<tr>
<td>2-</td>
<td>Barley</td>
<td>''</td>
<td>''</td>
<td>''</td>
<td>''</td>
<td>''</td>
</tr>
<tr>
<td>3-</td>
<td>Mustard</td>
<td>''</td>
<td>''</td>
<td>''</td>
<td>''</td>
<td>''</td>
</tr>
<tr>
<td>4-</td>
<td>Masoor</td>
<td>''</td>
<td>''</td>
<td>''</td>
<td>''</td>
<td>''</td>
</tr>
<tr>
<td>5-</td>
<td>Paddy</td>
<td>Autumn</td>
<td>1 <em>Kharwar</em></td>
<td>12 <em>Kharwar</em></td>
<td>2.25 <em>Kharwar</em></td>
<td>36 <em>Kharwar</em></td>
</tr>
<tr>
<td>6-</td>
<td>Mung</td>
<td>''</td>
<td>1 <em>trak</em></td>
<td>2 <em>trak</em></td>
<td>6 <em>trak</em></td>
<td>6 <em>kharwar</em></td>
</tr>
<tr>
<td>7-</td>
<td>Motah</td>
<td>''</td>
<td>''</td>
<td>''</td>
<td>''</td>
<td>''</td>
</tr>
<tr>
<td>8-</td>
<td>Mash</td>
<td>''</td>
<td>''</td>
<td>''</td>
<td>''</td>
<td>''</td>
</tr>
<tr>
<td>9-</td>
<td>Millet</td>
<td>''</td>
<td>4 <em>trak</em></td>
<td>12 <em>trak</em></td>
<td>12 <em>kharwar</em></td>
<td></td>
</tr>
</tbody>
</table>

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⁴ Mushtaq A. Kaw, *op. cit.*, p. 73.
⁵ *Akbarnama*, III, part- II, pp. 548-49.
TABLE –II
II\textsuperscript{ND} SOURCE – GULSHAN-I-DASTUR
PER-UNIT CROP YIELDS, IN TRAKS AND KHARWARS:

<table>
<thead>
<tr>
<th>S. No.</th>
<th>Name of the crop</th>
<th>Kind of the crop</th>
<th>Unit of land</th>
<th>Produce per Kharwar on the I\textsuperscript{st} kind of land</th>
<th>Produce per Kharwar on II\textsuperscript{nd} kind of land</th>
<th>Produce per Kharwar on III\textsuperscript{rd} kind of land</th>
<th>Average produce</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-</td>
<td>Wheat</td>
<td>Spring</td>
<td>Kharwar</td>
<td>22 Kharwar</td>
<td>18 Kharwar</td>
<td>14 Kharwar</td>
<td>18 Kharwar</td>
</tr>
<tr>
<td>2-</td>
<td>Barley</td>
<td>,,</td>
<td>,,</td>
<td>22 Kharwar</td>
<td>18 ,,</td>
<td>14 ,,</td>
<td>18 ,,</td>
</tr>
<tr>
<td>3-</td>
<td>Masoor</td>
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<td>,,</td>
<td>10 ,,</td>
<td>8 ,,</td>
<td>7 ,,</td>
<td>8 ,,</td>
</tr>
<tr>
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<td>,,</td>
<td>,,</td>
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<td>5 ,,</td>
<td>4 ,,</td>
<td>5 ,,</td>
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<tr>
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<td>Paddy seed</td>
<td>,,</td>
<td>,,</td>
<td>2 ,,</td>
<td>1 ,,</td>
<td>½ ,,</td>
<td>2 ,,</td>
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<td>Paddy Autumn</td>
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<td>24 ,,</td>
<td>16 ,,</td>
<td>24 ,,</td>
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<td>12 ,,</td>
<td>16 ,,</td>
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</tr>
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<td>8 ,,</td>
<td>6 ,,</td>
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</tr>
<tr>
<td>12-</td>
<td>Beans</td>
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<td>4 ,,</td>
<td>2 ,,</td>
<td>4 ,,</td>
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</tr>
<tr>
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<td>Cotton</td>
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<td>18 ,,</td>
<td>14 ,,</td>
<td>5 (\frac{1}{2}) ,,</td>
<td>12 Kharwar &amp; 4 sa’a</td>
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<tr>
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<td>40 Kharwar</td>
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