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sion that the wild and spontaneous growth of which mention is made is due to the germination of seed which has fallen by chance in favourable situations. There is no indication that the plant is inclined to run wild in this region.

78. Mr. Gunion has collated the information furnished in the official memoranda from the States of the Central India Agency, and these have not been forwarded, with the exception of a memorandum of the Minister to His Highness the Maharaja Holkar. Mr. Gunion reports that "there appears to be no spontaneous growth of the hemp plant in Central India." The Minister says that "here and there a plant may be seen by road or river side or near the huts of fakirs, etc., due to the dropping of the hemp seed by consumers." There is no reason, except perhaps the somewhat greater prevalence of cultivation, why the accidental growth should be more common in the States of the Central India Agency than in those of Rajputana. It may safely be assumed that there is no material difference between the two Agencies in this respect.

79. The official memorandum by the Director of Agriculture and Commerce of the Hyderabad State reports no wild growth. The spontaneous growth, if it does exist, is not plentiful, and is only such as may be found all over India springing up directly in exceptionally favourable situations from seed accidentally sown.

80. The official report on the use of hemp drugs in the Baroda State by Anant Gangadhar Khoti states that "wild ganja is not to be found in this part of the country. It is neither cultivated nor does it grow spontaneously in any part of His Highness's Dominions;" and again "in none of the districts of this State does the hemp plant grow spontaneously." There may possibly be some confusion in the mind of the reporter as to the wild ganja plant being specifically distinct from that which is usually cultivated, for there is some small extent of cultivation in the State. But it may be safely inferred that the hemp plant has nowhere run wild, even if a chance plant may occasionally be found.

81. Information regarding Kashmir is derived from memoranda by the Governors of Kashmir and Jammu and Muhammad Hayat Khan, Member of the Kashmir State Council. According to the last-named authority, the spontaneous growth in Jammu resembles in its character and the localities it affects the growth in the plains of the Punjab. He does not appear, however, to have any very exact idea of the latter growth; for he places many localities on the same footing, in some of which the growth is common, and in others scanty or even wanting. This much may be gathered, however, with tolerable certainty, that the growth in Jammu is not so abundant as in the more elevated tract of Kashmir. The tract of profuse growth in Kashmir mentioned by Muhammad Hayat Khan is Kashmir proper, extending from Baramula to Verinag and Shopayan. The country lying between Adhampur and Banhal in the Jammu province, as well as the jagirs of Bhaddarwah and Poonch, have also an abundant growth.

82. The memorandum of the Kashmir Governor mentions two kinds of wild growth which appear to have somewhat distinct characters. The growth called *talia* consists of the female plant, and is found in the Anantnag district and the Nagam tahsil of the

Two kinds of wild growth in Kashmir proper.

ranges. It may very well be doubted if without these aids the plant would long survive in the low country under the vicissitudes of the Indian climate and seasons. The plant appears to be very hardy when it is once well established, but it is clear from the distribution of the wild growth in India that the conditions of soil and climate under which it can attain full growth are limited.

86. It will be seen from the description of cultivation in Bengal that the seeds Conditions favourable to the wild growth. will only germinate properly if the nursery is kept thoroughly dry and the rainfall is not excessive. And throughout the growth the plant prefers a light, permeable, well drained soil. Similar evidence is furnished by the facts connected with cultivation in the Central Provinces and Bombay and the direct testimony of witnesses in answer to the latter part of the Commission's question 13. The soil need not be rich for the mere growth of the plant, for it will be found on a ballast heap as well as a dunghill. The essential conditions noted above are present in the Himalayas with the additional encouragement of a moderate temperature. If the rainfall should sometimes be tropical and excessive, it is carried off rapidly, and the seed or seedling has every chance of surviving it. The seed seems to germinate at the elevation of Simla in May and June, and it has five or six or seven months to grow and ripen its seed before the frosts come upon it. In the Himalayan submontane tract the seed germinates in November or December, *i.e.*, after the excessive moisture of the monsoon has sunk away from the surface soil, leaving it light and friable. The growth is favoured by the light cold weather rains, and does not meet with any very trying conditions unless it wanders very far from the shelter of the mountains. If it does, it will in all probability be burnt up by the fierce dry heat of the months from March to May or June. Protected by the mountain and forest air, it survives to ripen its seed, or perishes with the advent of the monsoon. The plant is not regular as to the time of germinating, and it seems to be later in the Assam Valley than in Hindustan. But in the same patch of growth plants will be found in all stages from the seedling to the flower, if not the seed bearer.

87. It is evident that throughout India outside the demarcated region there Conditions unsuitable to the wild growth prevailing in other parts of India. must be conditions unfavourable to the spontaneous growth. They may be conditions of permanent unsuitability or recurring vicissitudes. Probably both operate to keep the growth in check. In a very general way may be indicated heavy soils, short seasons with severe alternations of dryness and moisture, extreme drought as in Baluchistan, Sind, and Rajputana, excessive and continuous rain as on the Western Ghâts, and seasons of abnormal drought or abnormal moisture. Where, as in Travancore, the plant is alleged to reproduce itself, an unusually wet season may operate as a very effectual check to extension of the growth, either eliminating it for the time, or thrusting it back into a few well-drained localities.

88. South of the demarcated boundary of wild growth will be seen on the Areas where the spontaneous growth may be important outside the region of wild growth. map (Vol. III Appendices) two areas in lighter shading. One includes the central belt of spontaneous growth in the North-Western Provinces; the other the country between the Ganges and Bhagirathi on the one side and the Eastern Hill Tracts on the other stretching down to Calcutta. In these areas the spontaneous growth may under favourable conditions of site and season attain some importance.

CHAPTER IV.

EXTENT OF CULTIVATION, AND ITS TENDENCY TO INCREASE OR DECREASE.

89. In Bengal the law (section 5 of Bengal Act VII of 1878) forbids the cultivation without a license from the Collector of plants from which intoxicating drugs are produced. The cultivation of the hemp plant is accordingly confined to a compact tract having a radius of about sixteen miles, and lying in the three districts of Dinajpur, Rajshahi, and Bogra. The reasons why this tract was selected are not authoritatively stated. Cultivation was formerly carried on in the Jessore district also, but that was suppressed in 1875. The present ganja tract was probably found to be most suitable to the cultivation of the drug, and it was obviously an advantage to the excise administration to have the production confined to one area where economical and efficient arrangements could be made for supervising it.

90. There is practically no clandestine cultivation within this tract. The Excise Commissioner writes that "owing to the area in which cultivation is permitted being extremely limited, and to the close supervision there, there is every reason to believe that unlicensed cultivation has been all but suppressed." The ganja tract appears to have a tendency to further concentration. The 1st Assistant Supervisor of ganja cultivation states that it is now included within a radius of about fourteen miles, having been reduced from a radius of twenty miles since 1866, and he gives the following explanation of the change: "The gradual reduction in the extent of the tract was due to the fact that by the removal of jungles in the villages not far off Naogaon more land became generally available for cultivation, and more ganja was produced. Purchasers having ganja near Naogaon do not naturally like to go to distant villages for their supplies." The remote villages in the north, south, and east of the tract have accordingly given up the cultivation.

91. The area cultivated in 1892-93 was 3,540 bighas, an area far larger than the crop has occupied for twenty years past. But in the year 1891-92 the cultivation was the least in the same period, and doubtless the short outturn had to be made up in the following season. The cultivation of the two years together is not remarkably high. The following explanation by the Excise Commissioner must be read with the statistics of cultivation: "It will be observed that, except in the past year, there has been no material increase in the area under ganja cultivation during the last twenty years. The column shows the quantity of land in which the crop finally matured, excluding such land as was cultivated, but in which the plants failed altogether; and therefore, although it would appear that cultivation was greatly curtailed during the years 1875-76, 1878-79, 1879-80, 1885-86, and 1891-92, this was not really the case in all the years excepting 1885-86, as the plants in large areas under cultivation were destroyed in these years by heavy floods, and such lands were not taken into account. The decrease in the area cultivated in 1885-86 was due to the smaller profits of the cultivators in the preceding two years. The high price which the drug had realised in 1891-92 owing to wholesale failure of the crop in the previous year caused by inundation

induced a large number of raiyats to take up lands for cultivation during the following year. Some raiyats are regular growers of ganja, and annually set apart a portion of their holdings for the purpose; others are induced to take to ganja cultivation by the high profits of one year to abandon it again when prices fall." The evidence furnishes no better account of the fluctuations than this. A bigha is about one-third of an acre in Bengal. The cultivation of 1892-93, therefore, amounted to 1,180 acres, and the average of the last five years from 1888-89 to 1892-93 is 824 acres.

92. Leaving the ganja tract, the evidence gives reason to suppose that there is a certain amount of rearing of scattered plants. Clandestine cultivation: not on a large scale. This is, of course, carried on secretly, and in the places where the wild or spontaneous growth flourishes detection is more difficult. The Hon'ble Mr. Lyall thinks that the quantity of bhang that is now exported from the Bhagalpur Division shows that there must be cultivation to a considerable extent in that part of the country. He means that the bhang which is exported as wild must often be fostered, and perhaps to some extent sown and tended, by the occupants of the lands on which, or in the neighbourhood of which, it grows. Mr. Westmacott holds similar views because he has never found the wild plant in the jungle at a distance from habitations, but he does not indicate the localities to which his remarks apply. On the other hand, the Assistant to the Director of Land Records and Agriculture, who made special enquiries in the region referred to by Mr. Lyall, reports: "I could find no evidence of the hemp plant being actually cultivated in any part of Purnea and Bhagalpur. Everywhere it came up as a weed. In some places, however, where the plants did not grow in abundance, and would therefore seem to be an object of considerable value to bhang drinkers, I observed signs of its having been looked after with some degree of care." He then describes the signs of the plants having been attended to, and proceeds: "All this made me suspect that the people knew a great deal more about the bhang plant than they were willing to avow." This evidence is a partial corroboration of the high authorities named above, but it points rather to the surreptitious production of ganja in small quantity than to the cultivation on a large scale of the plant which the contractors carry away as bhang. And all the other evidence of the cultivation of the wild plant and of unlicensed cultivation generally refers more or less distinctly to the rearing of a few plants near houses, or in enclosures, or in the midst of crops, and not to operations of a more extensive kind.

93. This desultory cultivation, either from ganja seed or by rearing plants which have sprung up of themselves, occurs everywhere, though the evidence does not give the impression that it is common anywhere. The character of the clandestine cultivation. It is stated in Mr. Gupta's memorandum that there were 86 arrests and 71 convictions on this account in the year 1892-93. Arrests were made in 25 districts, "but all the cases were for growing a few plants (very often a single plant) in the courtyards of houses." Babu Abhilas Chandra Mukharji says that "in almost all the districts in which cases of illicit cultivation have been detected, the plants had been grown from the seeds of the Rajshahi ganja." But Mr. Basu's report and such evidence as the first part of the following extract point rather to the nurture of self-sown plants. Babu Pran Kumar Das (43) states: "I prosecuted and also tried some cases of

nourishing and promoting the growth of hemp plants. There was ample evidence of nourishment, such as soil properly prepared, watering, manuring, and otherwise taking care of, but in no case was there any evidence of cultivation. I, however, suspected that it was cultivated in a few cases. In Gaya I found plants grown in a field and being taken care of just as other crops. Generally the ganja smokers grew it in places hidden from the public view. Inside house compounds a few only are grown. The largest (*sic*) I saw was a field in Gaya, may be 20 or 25."

94. The Bhagalpur, Patna, Dacca, and Rajshahi Divisions appear to be those in which this illicit rearing is most prevalent, and the districts of Jessore, Cuttack, and Midnapur are also mentioned, but by only one witness in each case. It will be seen that this distribution agrees pretty closely with the prevalence of the wild growth. The quality of some of the evidence may be judged from that of a zamindar who wrote that "hemp (ganja) is said to be cultivated in certain parts of the Mymensingh district bordering the river Jamuna." The Board of Revenue ordered the Collector of Mymensingh to report on this allegation, with the result that the babu could not specify the villages in question, and that he was clearly, in the Collector's opinion, labouring under some misapprehension. The witness's statement indicated cultivation of a far more systematic kind than really existed, but it is unlikely that his information was entirely mistaken, and there is evidence in corroboration of the desultory kind of cultivation in Mymensingh. The evidence as a whole does not justify the belief that the wild plant is systematically cultivated or fostered to the extent suspected by Mr. Lyall even in the Bhagalpur and Monghyr districts, but it does show that the secret and desultory kind of cultivation is not uncommon in the divisions above named, and is rare in other parts of the province.

95. Cultivation of the hemp plant is prohibited in the State of Kuch Behar, and it is probable that secret cultivation is only carried on to the same extent as in the surrounding British territory.

96. It is notorious that a considerable amount of ganja and bhang is produced in the Garhjat. It is largely consumed in the British districts of Orissa, being either smuggled in or imported under pass. At one time the cultivation of the plant was prohibited within three miles of the British frontier, but that restriction has been removed, and it is now entirely uncontrolled. It is difficult to gauge the extent of the practice. In the collection of correspondence on this subject, the Commissioner is quoted as reporting that there were 1,000 consumers in the Angul State alone, and that they all grew ganja, selling only the surplus above their own wants. Babu Abhilas Chandra Mukharji holds the opinion that the outturn is very considerable, and capable of supplying the wants of all Orissa. One witness describes a spontaneous growth appearing in fertile places and never abundant; evidently the sort of growth which commonly springs up on rubbish heaps in the neighbourhood of habitations. He states that there is no cultivation, but in saying this he must be referring to regular field culture, for he states that people grow the plant for their own wants and sometimes sell it, the total production in his State being about twenty maunds a year. The District Officer of Angul (34) describes the same sort of cultivation, and says

that he has never seen more than twenty plants growing together. This account is confirmed by the Khas Tahsildar and Deputy Collector in Angul (73) and by Mr. Toynbee (4), who is the only official witness of superior rank who has made a tour of any duration in that country. It is pretty clear that there is no regular field cultivation in the Garhjat, and that the homestead or garden cultivation is quite uncontrolled and extremely common.

97. Witnesses (62) and (52) think that the cultivation is increasing, the former because the sale of Rajshahi ganja in Orissa has fallen off, and the latter because the restrictions on cultivation in the Tributary States have been withdrawn. No decided evidence of increase in the cultivation. Witness (13) of the Central Provinces, who is Extra Assistant Commissioner and Diwan of the Sonpur State, reports that the cultivation in the Boad State where it borders on Sonpur has increased since 1889 "because (1) it has not been allowed in the latter State; (2) it can be had cheaper than that supplied from the Government godowns; (3) people say that ganja manufactured from plants cultivated in the Boad State, which are similar to those cultivated before in Sonpur, is liked by them better than the flat ganja, which they think is more injurious to their health." It may be that the prohibition of cultivation in the Central Provinces States has given an impulse to it in the Garhjat even beyond the limits indicated by this witness. But it cannot be said that there is evidence of a decisive character showing any important extension of cultivation of late years.

98. All the detailed information that can be gathered of cultivation in the political States of Chota Nagpur comes through Political States of Chota Nagpur. Cultivation is under restriction. Mr. Grimley, Commissioner of the Division. One or two other witnesses who mention it state only the fact of its occurrence. In 1890 Mr. Grimley made special enquiries in the States on the subject, and the summary of replies from Sirguja, Udaipur, Gangpur, and Bonai seems to show that in all of them the cultivation is regularly practised, but everywhere under some sort of restriction. It would seem that the restrictions date back to 1883, and were imposed on account of representations from the authorities of the Central Provinces that considerable smuggling was being carried on from these States into that territory. It is proposed at present only to ascertain as far as possible the extent and character of such cultivation as exists.

99. Regarding the character, it cannot be discovered that there is any systematic field cultivation. The character and extent of the cultivation. Mr. Grimley states that "there is no regular cultivation. In some of the Tributary States people smoking ganja grow the plant at their doors according to their requirements for smoking and drinking; but this is done only on a small scale." It appears from Mr. Grimley's report of 1890 that the produce is of inferior quality, and it may be concluded that the produce as well as the cultivation very much resemble those of the adjoining Garhjat. Regarding the extent of this cultivation, there is no apparent reason why it should be less than in the Garhjat, unless it be the absence of such an outlet as the Garhjat possesses in the bhang-consuming population of Puri, and the restrictions which the authorities of Chota Nagpur have succeeded in enforcing. Mr. Grimley thinks that the local production is now insignificant, and he mentions as proof of this that the

Raja of Gangpur some five or six months ago applied for permission to import ganja. On the other hand, reference may be made to a report of the Commissioner of Chota Nagpur in 1889: "The result of the inquiry was to show that a good deal of ganja was being grown, and was being sold in the Gangpur bazars to be brought into Sambalpur for sale," qualified by the following: "I have just passed through the Gangpur State, but have not visited the parts immediately bordering on Sambalpur. So far as the State generally is concerned, I have not been able to hear anything of a general cultivation of ganja, and I think it probable that the plant is grown chiefly on the borders of Sambalpur." No more definite estimate can be formed of the extent of the cultivation than that it is very considerably less than in the Garhjat States. The Chief of Jashpur, the State memoranda from Seraikela and Kharsawan, and other informants from Gangpur and Sirguja state that there is no cultivation at all, and it is said that in Sirguja the consumer has to import the drug. This evidence would indicate that in a great part of the country the practice of cultivation must be quite uncommon.

100. Several witnesses speak to the cultivation of the plant in Hill Tippera, but they give little detail. It can be gathered, however, that the cultivation is of the ruder sort, the seed of the wild plant being often used. It is probably inferior to that of the Garhjat and the casual yard cultivation of the plain country. Otherwise it would have attracted the attention of Government, and the witnesses would have had more to say about it. Regarding the extent of cultivation, the evidence of a local officer, Babu Govind Chandra Basak (44), is probably the best. He says: "Very little ganja, say a few sérs, are grown in the Tippera Hills. The quantity is very small, for the hill authorities now import ganja under a pass from the Sudder (Tippera) golas." Still a small amount of smuggling into the plain country, both of Bengal and Assam, is said to occur. The State memorandum reports that "the cultivation of hemp is not carried on in the State."

101. There is no authorized cultivation in the districts of Assam which are under settled administration, and prosecutions are regularly instituted against persons in whose ground the plant is found growing, if it bears any sign of having been nurtured and tended. The result is, in Mr. Godfrey's words: "This sort of cultivation is kept in check by the district officers, so there is no considerable area of it." This opinion is to be accepted rather than that of Mr. Gait, which has been quoted above, that the growth is very actively tolerated by the villagers. The plant sows itself and grows vigorously all over Assam, and there must, of course, be many instances of the desultory sort of cultivation, for the produce of the untended growth is very inferior, and the temptation to nurse a few plants is great. But there is no winking at the practice, and it cannot be regarded as important.

102. In the Himalayan region on the northern frontier the regular cultivation probably resembles that which prevails throughout those parts of the same mountains about which there is more complete information, and consists of the more or less skilful cultivation of small patches in the immediate neighbourhood of homesteads; and it doubtless extends to the extreme north-east of the province, for there is evidence of it as far as the country of the Miris. It will probably be found also in the lofty ranges towards the Hukong valley and the north of Burma,

the country of the Khamptis and Singphos. In fact, there is information of the plant being cultivated with some care for fibre and the drugs in the adjoining Kachin Hills. But the evidence regarding the hill tracts within the province and on the southern frontiers points to cultivation of a very inferior sort, if indeed the plant is tended at all. It is said that the Nagas regard the plant as a jungle product, and that the ganja smuggled from the hills is hardly distinguishable from the produce of the wild hemp.

103. In describing the wild growth of the North-Western Provinces, reference was made to cultivation for the production of bhang in the districts of Farakhabad and Hardoi. The true hemp plant is also very widely cultivated in the Himalayan Division principally for its fibre, but yielding charas, bhang, and seeds as secondary products. The Himalayan cultivation is irregular and scattered, but it has been estimated to amount to 250 acres in the Almora district, and, more accurately measured, at 580 acres in Garhwal. Compared with the spontaneous growth of the mountains themselves and of the region lying below them, this extent of growth is not very important, for the plant cultivated for fibre seems to be little superior in narcotic properties to the spontaneous growth.

104. Turning to the plain country, the official returns give the marginally noted areas of cultivation in the district of Farakhabad, or Fatehgarh as it is called in Mr. Stoker's memorandum, for the last fourteen years. The Joint Magistrate and Excise Officer (No. 29) of the district, who presumably has access to the local records,

Extent of regular cultivation in the plains.			
	Acres.		Acres.
1879-80	... 195	1886-87	... 197
1880-81	... 165	1887-88	... 178
1881-82	... 164	1888-89	... 90
1882-83	... 160	1889-90	... 160
1883-84	... 81	1890-91	... 72
1884-85	... 89	1891-92	... 281
1885-86	... 112	1892-93	... 336

quotes very different figures, showing a decrease of the area from 691 bighas in 1891-92 to 561 bighas in 1892-93. There is no apparent reason why the official return should not be accepted, and it shows a decided tendency for the cultivation to increase. The reason may probably be correctly traced in the sentence of Mr. Stoker's memorandum: "All this plant is converted into bhang, which is of a superior quality, technically known as *tatia* (from a village in Fatehgarh district), and commanding a much higher price than the wild bhang of the sub-montane tracts." Regarding the cultivation in the Hardoi district, the official return only gives one acre in the year 1891-92. This seems hardly consistent with paragraph 9 of Mr. Stoker's memorandum, which indicates a considerable export from Hardoi; but it is possible that the explanation may be found in the fact that the cultivation is not pure, but often mixed with other crops, and that it is therefore impossible to measure it. The practice of the less systematic sort of cultivation may be very prevalent in Hardoi notwithstanding that it is not recorded. Several witnesses, however, state positively that it is decreasing.

105. The evidence generally corroborates the official account, but many witnesses have been misled by the word *patsan* having been used to signify the hemp plant in the translation of the Commission's questions issued by the North-Western Provinces Government. *Patsan* is the local name for the *Hibiscus cannabinus* ("Field and Garden Crops of the North-Western Provinces and Oudh"—*Duthie and Fuller*). It has not, however, been difficult to detect the answers which have been vitiated by this mistake.

106. It does not appear that any regular field cultivation exists in the plain country beyond that which has been above described. Homestead cultivation in the plains. Such cultivation as there is consists of the rearing of a few plants near houses, the tending of scattered plants sown accidentally, and perhaps the surreptitious sowing in the midst of crops calculated to afford concealment by their size and their general similarity to the hemp plant. Referring partly to this sort of cultivation in connection with the spontaneous growth, Mr. Stoker says that "in some districts the amount produced by these forms of sporadic growth is considerable, and is a constant source of complaint by the drug contractors;" and the evidence corroborates this view. He thinks, broadly speaking, that it prevails to a greater or less extent in all parts of the province lying north and east of the Jumna, and this comprises by far the greater part of the province. South of the Jumna, the Collector of Jhansi thinks that a good deal is grown in a quiet way for domestic use; and it is not unlikely, as there is no absolute prohibition, that all along the southern fringe of the province this sort of cultivation may be occasionally found.

107. The best informants regarding the cultivation of the Himalayan region are Mr. Gillan (21), Joint Magistrate of Moradabad, The range of cultivation in Garhwal. Murlidhar (248), Drug contractor of Moradabad, Pandit Ganga Dutt (56), a retired Deputy Collector, and Dharma Nand Joshi, Settlement Deputy Collector (49). The two first allege that the cultivation is spreading because of the enhanced value of charas; the third also alleges increase, but attributes it to the general usefulness of the plant. Dharma Nand Joshi takes the opposite view, and gives as reasons for decrease that the people have become more civilized, and are changing their habits as regards the use of hemp for clothing; that newly cleared forest land, which is peculiarly suited to the plant, is no longer available; and that other crops have been found more profitable. The last witness's description of the distribution of the cultivation is interesting. It is cultivated very extensively, but more for its fibre and seeds than for charas. In the warmer parts to the south the people wear cotton clothes and are not dependent on hemp. In the north also little hemp is sown, and that in but few villages, because the people keep goats and wear woollen clothes, using the hemp only for their *chabel* or shoes, and making but little charas, which they do not commonly sell, but give to fakirs visiting Badrinath and Kedarnath. In the parganas of Chandpur and Devalgarh more largely, and to a less degree in Barah Syun, Talla and Malla Salans, Choundkote, and Badhan, the plant is widely cultivated. Roughly speaking, it is grown in about one-third of the Garhwal district. In the portion last named every cultivator of the Khasia or Dom caste in every village which is situated at an altitude of between 4,000 and 7,000 feet sows a plot equivalent to two or eight perches.

108. There is no prohibition in this province against the cultivation of hemp, but nevertheless it is clear that a contrary impression is abroad, as is the case in other provinces which are similarly situated in this respect. Cultivation discouraged by the idea that it is illegal: Local production of ganja has decreased. Mr. Bruce, of Ghazipur (28), thinks that as regards his district the belief "is traceable to the fact that in the adjoining districts of Bengal free cultivation is not allowed." The mere fact that the sale of the drugs is a Government monopoly might well give it wider circulation. Several of the witnesses evidently think that the culti-

vation is illegal, and there is some evidence that cultivation was formerly carried on in some of the Oudh districts until it was suppressed by authority. Witness (135) says that in the time of the King of Oudh bhang used to be cultivated in gardens abundantly. Witness (251) speaks of *Mahadeva* ganja (in large bundles) being formerly made in Sitapur and Nawabganj. Witness (61) says that the district authorities having heard of the practice in Loochaisar, tahsil Fatehpur, district Barabanki, forbade it. Witness (247) mentions Sitapur and Lakhimpur and Kheri as districts where ganja was formerly cultivated, and that it has now disappeared in the Province of Oudh. According to this witness, it was fostered by the Nepalese in the parts of the province which were formerly under their domination; and it would seem that the *Mahadeva* ganja got its name from a place in Barabanki where the cultivation was formerly carried on. This origin for the name is confirmed by the evidence of other witnesses. Mr. Stoker is therefore probably mistaken in supposing that this sort of ganja was imported from Nepal. The evidence leaves the impression that a system of practical restriction is going on tending to confine the cultivation to the districts of Farakhabad and Hardoi. It also seems certain that the local production of ganja has of late years very considerably decreased.

109. The only Rampur witness states that there is no cultivation of the hemp plant in Rohilkhand, but there can be little doubt that the sporadic cultivation prevails in Rohilkhand and Rampur to the same extent as in the neighbouring British districts.

110. The description which has been given of the general prevalence of Himalayan cultivation must be accepted for native Garhwal and Tehri. There is no memorandum from the State and no evidence relating exclusively to it.

111. The Himalayan cultivation of the Punjab does not differ from that of the North-Western Provinces, but from the fact that there is none in Kashmir, it would appear to decrease in frequency westward. The plant is grown principally for fibre and in small scattered patches, so that its area cannot be estimated. Mr. Anderson (10), however, ascertained in 1880 that the area in Kulu and Plach was then about 200 acres. Witness (71) states that in British Lahoul every zamindar cultivates a small patch for the sole purpose of obtaining its fibre, and that charas, which he calls bhang, is imported.

112. In the south-west angle of the province there is a small amount of systematic cultivation for the production of bhang. The Excise Commissioner reports that this does not exceed 100 acres. The evidence gives figures for some districts. Thus witness (68) estimates the produce of the Muzaffargarh district at 100 maunds, which would require some 10 or 12 acres of crop. Witness (24) states that the area in the Jhang district in 1893 was only 20 kanals. In Dera Ghazi Khan the area seems to be about 30 acres. Five acres are said to be cultivated in Shahpur. Several witnesses talk in general terms of cultivation for bhang being practised. Some describe the cultivation as consisting of the rearing of a few plants in yards and gardens by fakirs and other consumers. Witness (39)

states that cultivation is carried on in every district more or less, "but more so in Hoshiarpur, Derajat, and other frontier districts." All this cultivation is stated to be for the production of bhang. Ganja is not smoked in the Punjab. The cultivation of the more systematic kind is probably not understated at 100 acres. The desultory cultivation of a few plants seems to be a wide-spread practice; but the total amount of bhang produced by it cannot be important—must, in fact, be trifling compared with what the wild growth yields.

113. The evidence and other papers do not show that the cultivation is other than stationary. There is no legal prohibition to the growth of hemp, but it is probable that it is discouraged and restricted by the fact that the sale of the produce is under regulation.

Cultivation not increasing.

114. There does not appear to be any artificial restriction in any Punjab State on the cultivation of hemp, not even in Nabha, where the use of ganja and charas is said to be prohibited. Bahawalpur is, however, the only State of those furnishing information in which cultivation for the narcotic is admitted to exist. It is not confined to any special locality. Farmers grow small patches with other crops, generally near wells. It yields bhang, only in sufficient quantity for local consumption, and seeds which are used for food as well as for fresh sowing. It is stationary in extent. Chamba reports that the drugs are not produced, but it is probable that cultivation for fibre and seeds exists in this State as in the rest of the Himalayan region. There is no reason to suppose that the cultivation, which is habitual at certain elevations in the Himalayas, *i.e.*, from about 4,000 to 8,000 feet, is not practised by the Native States. Mr. Coldstream refers to cultivation in Bashahr and near Kasauli, and says that in the former tract the plant produces resin. But it certainly appears from Mr. Anderson's report regarding Kulu, the evidence of witness (71), and the fact that the evidence about the preparation of charas is wanting in certainty and definiteness, that charas is not looked upon as a regular bye-produce of hemp cultivation to the same extent that it is in Garhwal further east. It would appear that towards Kashmir the wild plant becomes more extensively used for the preparation of drugs.

Punjab States.

115. Going back to the year 1872-73, the Excise Commissioner writes that "in almost every district a few hemp plants were to be found in the gardens of cultivators, and it was only in Raipur and Bilaspur that a license-fee was imposed on cultivation." This general and unsystematic cultivation was an impediment to excise management and to the control which the Government of India enjoined on the Local Governments as the result of the inquiries made in 1873. By special inquiries instituted in 1873-74, it was ascertained "that in every district, except perhaps Hoshungabad, Narsinghpur, Mandla, Chhindwara, and Bilaspur, the amount privately grown for home consumption was insignificant, while in Sambalpur it was *nil*, home-growing having been prohibited by executive order of the Deputy Commissioner." From this date the general restriction of cultivation was kept steadily in view, and before long a system of licensing cultivation was introduced. Penalties for unlicensed cultivation were ordained and enforced in many cases. The districts where regular cultivation has

Central Provinces.
The progress of restriction of cultivation.

been chiefly carried on during the last twenty years are Nagpur and Nimar, but up to the year 1878-79 licenses for cultivation of small areas were granted in one year or other in twelve other districts, of which Wardha and Chhindwara were the most important. From this year cultivation was confined to Nagpur and Nimar. It gradually fell off in the former of these districts, and since 1890-91 it has been restricted by law to the Nimar district. The Deputy Commissioner of Nimar now reports that "ganja is grown in sixty or seventy villages in Nimar. The cultivation is confined to the western half of the Khandwa tahsil." And he gives the following figures of area for the last three years:—

					Acres.
1890-91	...	...	...	...	477
1891-92	...	...	...	...	963
1892-93	...	...	...	...	984

116. Mr. Robertson's figures for the last twenty years frequently differ from those of the Excise Commissioner's tables, and he explains that they "represent the area actually cultivated, not the area for which the licenses were granted. The latter is almost always in excess, as the cultivator generally asks for a license for more land than he means to plant in order to ensure against his being proceeded against for excess cultivation." This explanation, applied to Nagpur as well as Nimar, may perhaps account in some degree for the abnormally high figures of cultivation shown by the Excise Commissioner in 1877-78, 1884-85, and 1885-86; but it will be seen that in 1884-85 the quantity of ganja deposited in the central stores was unprecedentedly high also (paragraph 32, Excise Memorandum). If the excess Nimar cultivation be deducted and the year 1878-79, in which the figures agree, be included, it will be found that the total area of cultivation has gone above 1,000 acres in only four years, *viz.*—

					Acres.
1877-78	...	...	...	...	1,605
1878-79	...	...	...	...	1,285
1884-85	...	...	...	...	1,166
1885-86	...	...	...	...	1,659

117. Between these years of high figures will be found, after making similar deduction in 1882-83, a period of great depression, *viz.*, from 1879-80 to 1882-83. The Excise memorandum shows that the whole of this period from 1877-78 to 1885-86 was marked by drastic changes in the excise arrangements, and it may be noted that it was coincident with extensive cultivation in the neighbouring Bombay district of Khandesh. Matters then settled down, and the normal demand under present arrangements seems to be met by cultivation closely approaching 950 acres. For 1891-92 the Deputy Commissioner's figures of 963 acres is taken in preference to the Excise Commissioner's 653 acres. Abnormally low figures are found in 1887-88 and 1890-91, which are probably to be accounted for by a surfeit of stock from previous years.

118. The desultory and illicit cultivation, if carried on at all, is confined to gardens and backyards, and is never to be found in open fields. The authorities believe that it has been practically suppressed, and the Commission have heard so little of its existence

that they must accept that view. The Inspector-General of Police and Prisons is the only witness who believes that it is common. Mr. Naylor, District Superintendent of Police, states that "about six or eight cases are annually reported of the ganja or hemp plant being grown in *baris*;" but he adds: "I think the illicit cultivation has now almost ceased." Some few witnesses state that hemp is sometimes raised from the seed of the wild plant, and in saying this they must have the irregular cultivation in view; but the same witnesses do not clearly depose to the existence of such cultivation in the Central Provinces.

119. The Feudatory States, most of which lie in the extreme east of the province, have agreed not to allow cultivation and to import their ganja from the Government godowns at Khandwa. It is possible that the yard cultivation which was formerly common has not been entirely suppressed in these States, for it is unlikely that the supervision in such remote and wild tracts can be very strict. But the responsible officers of some of them—Khairagarh, Sonpur, and Bastar—give assurance that the cultivation has been stopped.

120. The Deputy Director, Agricultural Branch in the Department of Land Records and Agriculture, has, at the instance of the Commission, made personal inquiries into the cultivation and manufacture of ganja in the Presidency, and recorded the results in bulletin No. 29. The opening paragraph of the bulletin gives a general view of the distribution of the true hemp plant (*Cannabis sativa*) throughout the province: "Though grown here and there in most parts of the Presidency in backyards, it is found as a regularly cultivated field crop in only two localities, *viz.*, in the Malayali villages on the Javadi Hills in North Arcot, and in one or two villages in the Bapatla taluk of Kistna district. It is also raised to a certain extent in the hilly parts of Vizagapatam and Ganjam, but there seldom more than a few plants are grown by each person." The localities where field cultivation is carried on are no doubt correctly indicated in this passage, and they are the principal ones; but the statistics which have been furnished to the Commission by the Government of Madras as well as the evidence lead to the belief that regular cultivation to a greater or less extent is to be found in other districts. And there is reason to think also that the bulletin does not give a correct idea of the general prevalence of the practice of home cultivation in yards and gardens. This may have been outside the scope of Mr. Benson's inquiry. At the close of the pamphlet Mr. Benson writes that "in both localities it is stated that of late years the area planted with hemp has been reduced, the price offered for ganja having fallen with the restriction of the demand owing to the introduction of the system of licensing retail vendors. A few years ago the crop was also grown to some extent in the Pulivendla taluk, Cuddapah district, but its growth there has now been abandoned."

121. The official statistics of cultivation are admittedly inexact, and the imperfection appears to be due to two causes. The Acting Secretary to the Board of Revenue in the Department of Separate Revenue reports in his letter No. 1839-Mis., dated 1st May 1894, that "accurate figures are nowhere available, as no accounts are maintained respecting the cultivation of the plant." And further on in the same report he refers to the second cause of error in the following words: "It is very

probable that the Collector here, as elsewhere, has confounded the area of the narcotic hemp plant (*Cannabis sativa*) with the fibre hemp (*Crotalaria juncea*), which is a totally distinct plant. The Board has been informed by Mr. Benson, Deputy Director, Agricultural Branch of the Board of Revenue, that the *Cannabis sativa* is never grown in this Presidency for fibre, and that the hemp plant grown for fibre must be the *Crotalaria juncea*." Under these circumstances it is useless to make a detailed examination of the figures of cultivation for past years, and there is little chance of its being possible to arrive at any definite conclusion as to whether the area of regular cultivation tends to increase or decrease. The area under regular cultivation in 1893-94 appears from the statistical table and the correspondence arising out of it to be as follows :—

					Acres.	Cents.
Ganjam	...	...	...	...	0	62
Godavari	...	...	...	...	1	12
Kistna	...	...	...	...	201	7
Kurnool	...	...	...	...	5	0
North Arcot	...	...	...	...	77	0
Coimbatore	...	...	...	...	50	0
Nilgiris	...	...	...	...	2	0
Nellore	...	...	...	...	1	44
South Canara	...	...	...	..	7	0
					—	—
				Total ...	345	25
					—	—

But in Mr. Horne's memorandum South Arcot and Cuddapah are credited with 5 and 30 acres respectively, which would raise the total to 380 acres. It may, however, be doubted in view of Mr. Benson's statement that cultivation in Cuddapah has been abandoned, and of the fact that fibre is mentioned in connection with the cultivation in South Arcot, whether this cultivation really exists. The North Arcot area was 200 acres for 1892-93, and the fall in 1893-94 is said to be due to the restriction of the trade in the drugs and to the absence of seasonable rains in the hills. The total area of 350 acres is probably under the mark.

122. The evidence leaves no doubt that the home cultivation of a few plants is Home cultivation common, but carried on in nearly every district in the Presidency, probably decreasing. and it is difficult to believe in view of its general prevalence that it is altogether non-existent in Madras, Chingleput, and Tanjore notwithstanding the direct negative of the Collectors of the last two districts. On the other hand, there is reason to think that the regulation of the traffic in the drugs, which was introduced in 1889, and has been applied with greater care and stringency in recent years, has created the impression in the minds of the people that the cultivation is illegal. The occasional action of preventive officers in warning growers of casual plants, and perhaps in causing the plants to be uprooted in some instances, may have enforced this idea. The result on the balance of evidence seems to have been to reduce this kind of cultivation, and it is quite possible that many of the witnesses who depose to the existence of it are speaking from memory and experience rather than from recent observation. The Collector of Cuddapah, a district where there is reason to suspect the existence of a small amount of field cultivation as well as much home growth, argues that the excise

restrictions may have reduced the cultivation which serves the markets, but must encourage the home growth, which is not illegal, for private consumption. Several other witnesses infer that there must be increase of cultivation from the spread of the taste for the drugs. One of the most definite statements of the last class is that of the District Forest Officer, North Malabar, that, "owing to the greater demand for ganja from the coast, cultivation as described above is slightly increasing year by year." Another witness states that in Ganjam the cultivation is increasing in the Agency tracts while it is declining in the plains. Reference may be made to another specimen of the arguments to shew increase. After quoting the returns of cultivation in the Bapatla taluk, which show steady decrease, as the only ones available, the Acting Sub-Collector at Guntoor writes: "As far as Bapasia taluk is concerned, the figures given above seem to indicate that the area under hemp cultivation is gradually decreasing. But I am inclined to think that these figures are not reliable." And, after alluding to the introduction of excise arrangements and increase of revenue, he proceeds: "This shows that there is a possibility of large future developments in the trade in hemp drugs, and the hypothesis that the cultivated area is gradually decreasing must necessarily be wrong." Being ignorant of the method of keeping agricultural statistics in the Madras Presidency, the Commission are unable to judge how far the Sub-Collector is justified in mistrusting the figures he quotes. That some ground exists is shown by the admission of the Secretary to the Board of Revenue quoted above. But, taking this for granted, the arguments cannot be accepted, for there are other sources of ganja supply besides the Kistna district, and the expansion of the revenue does not necessarily imply an increase of production or even of consumption.

123. There is not after all any great body of evidence to show increase of cultivation, and the increase indicated is not very decided, except perhaps in the case of Angappa Gonuden (189), who says: "Hitherto cultivation of the ganja plant was very rare. But it has now considerably increased, since more people resort to its use now than before." This witness is worth quoting, because his answers are generally sensible, and he appears to be in the habit of cultivating the plant himself. But it is advisable to guard against an apparent tendency to exaggeration. His description of the extent of cultivation in Salem may be quoted here with the above reservation as probably typical of several localities in the Presidency: "There is little of the ganja plant cultivation in my district of Salem. They are all for the production of ganja alone. One-fourth of the houses in Salem have on an average half a dozen plants in each backyard. The same number of plants can be found in at least 2 per cent. of the fields in the villages of Salem, Ather, and Namakul taluks." In most districts the extent of backyard cultivation falls short of this description. In Cuddapah and Coimbatore the state of things would seem to resemble Salem, with the addition that there are probably some small patches of field cultivation grown for profit. In the hill tracts of Ganjam, Vizagapatam, and Godavari, and to a very much less degree in the Wynaad and the Nilgiris, the home cultivation seems to be carried on for the market, the produce being used for barter or sale to licensed dealers. There is no formal restriction on cultivation, and the cultivators are allowed to sell the produce to the licensed

dealers. The whole of the homestead cultivation must, therefore, be regarded as entering into the licensed consumption. Looking to the extent of this cultivation throughout the Presidency, and especially in the hill tracts of the north and south, it will not be extravagant to say that the total area in which the hemp plant is cultivated is perhaps double that of the regular field cultivation.

124. The only cultivation reported is two acres in Banganapalle. But the plant is found uncultivated in Travancore, and there is reason to believe that in this part of India the spontaneous growth is associated very intimately with cultivation. It may therefore be inferred, in spite of the fact that the drugs are imported, that there is some home cultivation in that State. And from the survey of the whole Presidency, which showed a general prevalence of home cultivation, it may be presumed that it is to be found in all the States, more commonly in Travancore than elsewhere, owing to the country being more favourable to the growth on account of a great part of it being hill land. It appears also that in Travancore the Kanekars, a hill tribe, are allowed to grow the drug for their own consumption.

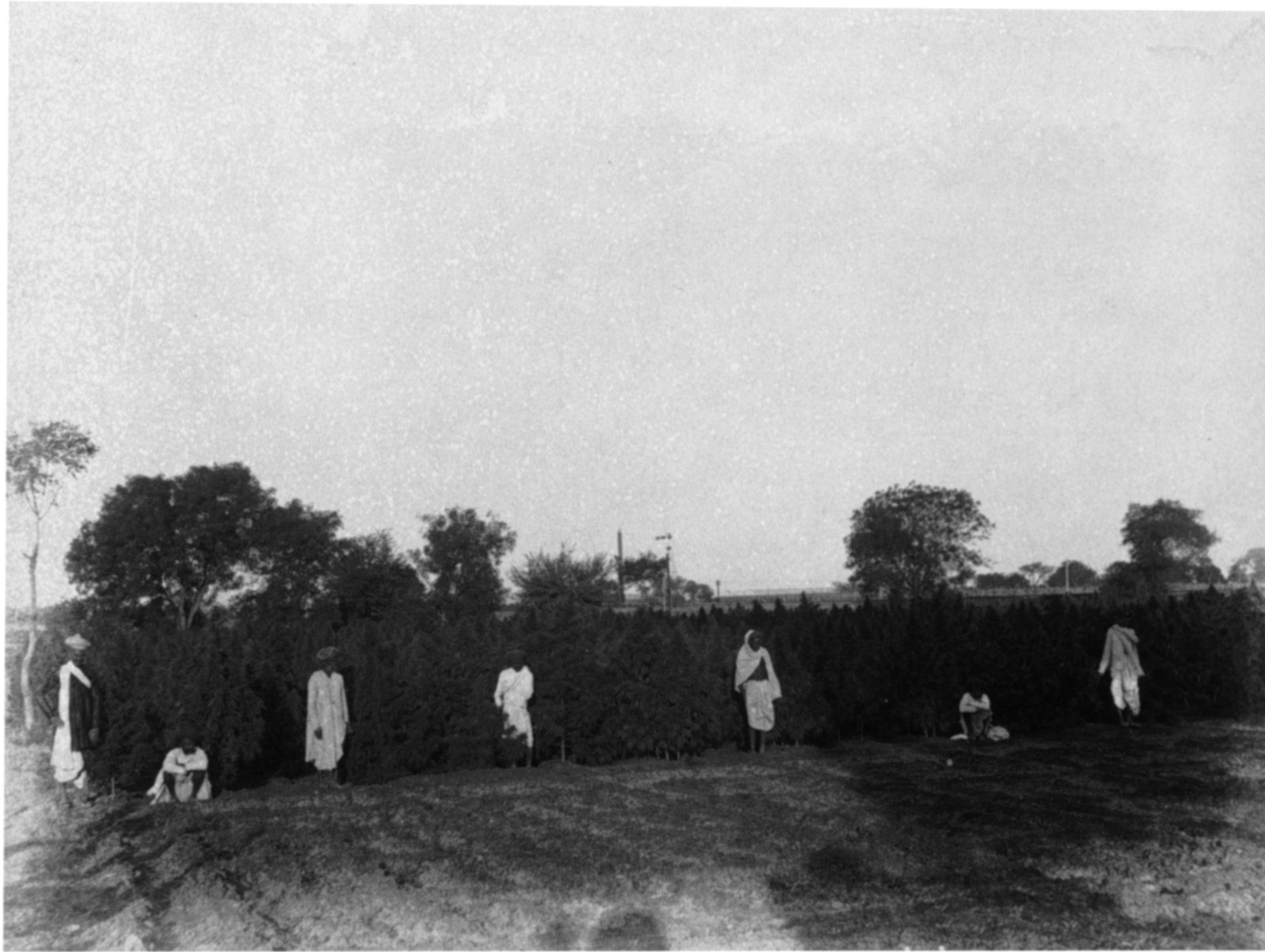
125. The districts in which the regular cultivation of hemp is now principally carried on are Ahmednagar and Satara, and their acreage for the last eight years is as follows:—

					Ahmednagar.	Satara.
					Acres.	Acres.
1885-86	...	...	...	...	1,030	411
1886-87	...	...	...	...	789	558
1887-88	...	...	...	...	637	173
1888-89	...	...	...	...	268	170
1889-90	...	...	...	...	830	368
1890-91	...	...	...	...	605	471
1891-92	...	...	...	...	676	317
1892-93	...	...	...	...	382	299

In the following districts also there is a small extent of regular cultivation:—

					Five years' average.
					Acres.
Khandesh	...	...	...	...	30
Poona	...	...	...	...	12
Nasik	...	...	...	...	16
Sholapur	...	...	...	...	46
Bijapur	...	...	...	...	4
Broach	...	...	...	...	$\frac{1}{2}$
Surat	...	...	...	...	11

These figures are taken from the table submitted by witness 49, Superintendent, Office of Survey Commissioner and Director of Land Records and Agriculture, because it is more complete than the statistics furnished by the Commissioner of Abkari, and probably more correct. In the year 1885-86 Khandesh grew as much as 311 acres, but the area has now fallen to 9 and 10 acres in the last two years. The district adjoins the Central Provinces district of Nimar,



Survey of India Office, Calcutta, August 1894.

A GANJA FIELD, KHANDESH.

and its hemp cultivation has probably been checked by the excise system of the latter province, which underwent important changes about the year mentioned above.

126. The total cultivation of the Presidency, excluding Sind, for the last eight years is as follows :—

Cultivation decreasing.			years is as follows :—		
		Acres.			Acres.
1885-86	...	1,844	1889-90	...	1,341
1886-87	..	1,488	1890-91	...	1,201
1887-88	...	904	1891-92	...	1,093
1888-89	...	533	1892-93	...	812

One or two witnesses hint rather than indicate specifically the existence of cultivation in the Ahmedabad and Kaira districts of the Guzerat Division and in Thana in the Konkan. But there is certainly no regular field cultivation in these districts. Except about twelve acres in Surat and Broach for the production of what is called bhang, the whole cultivation is practically confined to the Deccan or Central Division. It has been suggested that the excise system of the Central Provinces is to account for the fall of the cultivation in Khandesh from the high acreage of 1885-86, and it may have affected districts at a greater distance from the frontier. But it can hardly be accepted as the explanation of the extraordinarily low figure of 1888-89. The reduction in this year was shared by the four contiguous districts in the southern part of the Central Division and not by the districts of Nasik and Khandesh in the northern part, and was probably due to an unfavourable season. There is no official explanation of it. In the succeeding year cultivation recovered, but has since shown a steady decrease. Witnesses state that the irksome conditions imposed by the excise system render the cultivation unpopular, though it is not burdened with any direct tax or license. This may well be the cause of the decrease.

127. Regarding homestead cultivation, the Collector of Thana writes :

Home cultivation is rare. "The plant is not cultivated in the Konkan as a field crop, nor even as a market crop in gardens, but

it occurs in small numbers in many private gardens, and I have seen specimens that seemed to me to be self-sown, and afterwards taken care of by the gardeners." This is the only positive evidence of the existence of such cultivation in British territory in the Bombay Presidency, though there are to be found hints that it is carried on to a very small extent in the Ahmednagar and Dharwar districts in the present day, and some definite information that it was formerly practised more widely. It seems certain that the extent of it in British territory is now absolutely insignificant.

128. The Bombay Presidency contains a great number of Native States

Native states. whose lands are intermixed with British territory

The south of the Presidency. in a very complicated manner. Sometimes they

are constituted into separate political charges, and some are under the political supervision of Collectors of British districts. In the Southern Maratha Country, Kolhapur with many smaller States forms a political charge covering a very considerable area. The leading State has prohibited the cultivation of hemp, but the following minor States allow it with in some cases the restriction of a

license and the regulations as to sale of the produce which exist in British territory :—

						Acres.
Sangli ...	...	...	...	...	...	44
Miraj (junior)	...	...	...	...	...	13
Jath ...	...	...	...	...	...	30
Jamkhandi	...	...	...	...	...	60
Total						147

There are also ten acres of regular cultivation in the Aundh State under the Satara Agency, which lies in the Deccan Division. There is no information of any homestead cultivation in the States in the south of the Presidency, nor of field cultivation in any State except those named above.

129. Turning northwards, there is no evidence of any cultivation till Baroda is passed. This State is under the direct control of the Government of India, and may be dealt with separately. In the Rewa Kantha Agency the plant is not cultivated at all. In the Palanpur Superintendency the authorities of Palanpur and Radhanpur report that there is no regular cultivation, but the plant springs up spontaneously to a very small extent in irrigated lands, and in fields situated on river banks and beside water. The information seems to imply that the plants are tended, and from Palanpur it is stated definitely that the plant is sometimes grown in gardens. It may be noted that a small import of bhang from Palanpur into the Bombay district is said to occur. The same state of things probably prevails in the Mahi Kantha Agency; for though it is reported from Idar, the principal State, that there is no cultivation, the Native Assistant to the Political Agent states that the plant is not cultivated "to any extent," clearly implying that there is some cultivation. And matters are not very dissimilar in Kathiawar, for the Assistant Political Agents in charge of the Halar and Gohilwad Prants write that there is no cultivation for the market, but in some places a few plants are reared in sugarcane fields and *wadas* for home consumption and gifts to holy men. The report from the State of Cutch describes similar cultivation. A witness of Hyderabad (Sind) states that ganja is imported from Panvel and Cutch. This may, and probably does, mean that it comes through Cutch from Panvel, a place near Bombay, where a wholesale business is carried on.

130. There is a certain amount of cultivation in Sind for bhang, principally in the Shikarpur district, and some in the Khairpur State also. The average areas for quinquennial periods during the last twenty years and for the year 1892-93 are given below :—

					Acres.
Karachi ...	1st period	...	...	...	87
	2nd „	...	...	...	95
	3rd „	...	...	...	140
	4th „	...	...	...	81
	1892-93	...	...	...	65