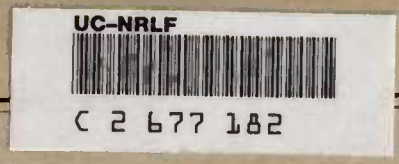


WORKING-PLAN REPORT

OF THE

CHAPPARA, DHOOMA AND NERBADA RANGES

IN THE

SEONI DIVISION

OF THE

SOUTHERN CIRCLE, CENTRAL PROVINCES.

BY

GANGAPRASAD KHATRI,

Extra Assistant Conservator of Forests.

Nagpur:

PRINTED AT THE SECRETARIAT PRESS.

1901.

EXPENDITURE.—(*Contd.*)

Budget Heads.	Ranges.	1894-95.	1895-96.	1896-97.	1897-98.	1898-99.	Total.
		Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.
A-VIII-*d*....	Chappara Range ...	...	...	...	62 0 0	...	62 0 0
	Dhooma " ...	...	...	...	74 0 0	...	74 0 0
	Nerbada " ...	...	...	4 0 0	...	...	4 0 0
	Total ...	...	...	4 0 0	136 0 0	...	140 0 0
A-VIII-*f*...	Chappara Range ...	5 0 0	27 0 0	6 0 0	3 0 0	...	41 0 0
	Dhooma " ...	...	25 0 0	5 0 0	3 0 0	...	33 0 0
	Nerbada " ...	...	26 0 0	9 0 0	6 0 0	2 0 0	43 0 0
	Total ...	5 0 0	78 0 0	20 0 0	12 0 0	2 0 0	117 0 0
A-VIII-*g*....	Chappara Range ...	26 0 0	...	...	...	...	26 0 0
	Dhooma " ...	...	...	...	...	...	...
	Nerbada " ...	...	...	...	...	...	...
	Total ...	26 0 0	...	...	...	...	26 0 0
A-IX-*a*.	Chappara Range ...	2 0 0	31 0 0	...	...	...	33 0 0
	Dhooma " ...	...	...	12 0 0	...	...	12 0 0
	Nerbada " ...	13 0 0	...	...	...	1 0 0	14 0 0
	Total ...	15 0 0	31 0 0	12 0 0	...	1 0 0	59 0 0
A-IX-*b*.	Chappara Range ...	...	3 0 0	...	...	1 0 0	4 0 0
	Dhooma " ...	3 0 0	2 0 0	...	...	...	5 0 0
	Nerbada " ...	...	...	...	...	1 0 0	1 0 0
	Total ...	3 0 0	5 0 0	...	...	2 0 0	10 0 0
B-I-*c*.	Chappara Range ...	1,584 0 0	2,219 0 0	1,634 0 0	1,257 0 0	1,396 0 0	8,090 0 0
	Dhooma " ...	1,029 0 0	1,044 0 0	1,075 0 0	1,022 0 0	1,027 0 0	5,197 0 0
	Nerbada " ...	949 0 0	1,149 0 0	1,060 0 0	1,482 0 0	1,677 0 0	6,317 0 0
	Total ...	3,562 0 0	4,412 0 0	3,769 0 0	3,761 0 0	4,100 0 0	19,604 0 0
B-II-*c*.	Chappara Range ...	180 0 0	219 0 0	225 0 0	180 0 0	180 0 0	984 0 0
	Dhooma " ...	163 0 0	216 0 0	150 0 0	180 0 0	180 0 0	889 0 0
	Nerbada " ...	176 0 0	229 0 0	209 0 0	210 0 0	210 0 0	1,034 0 0
	Total ...	519 0 0	664 0 0	584 0 0	570 0 0	570 0 0	2,907 0 0

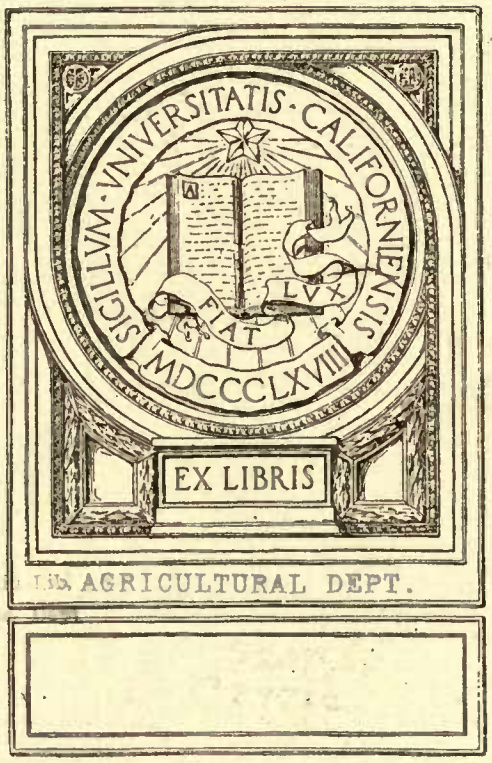
EXPENDITURE.—(*Contd.*)

Budget Heads.	Ranges.	1894-95.	1895-96	1896-97.	1897-98.	1898-99.	Total.
		Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.
B III-*a*.	Chappara Range ...	2 0 0	2 0 0	1 0 0	...	2 0 0	7 0 0
	Dhooma " ...	2 0 0	...	1 0 0	...	...	3 0 0
	Nerbada " ...	...	2 0 0	1 0 0	1 0 0	3 0 0	7 0 0
	Total ...	4 0 0	4 0 0	3 0 0	1 0 0	5 0 0	17 0 0
B-III-E	Chappara Range ...	1 0 0	1 0 0	1 0 0	1 0 0	1 0 0	5 0 0
	Dhooma " ...	1 0 0	8 0 0	2 0 0	1 0 0	2 0 0	14 0 0
	Nerbada " ...	1 0 0	1 0 0	16 0 0	12 0 0	13 0 0	43 0 0
	Total ...	3 0 0	10 0 0	19 0 0	14 0 0	16 0 0	62 0 0
B-III-F	Chappara Range ...	1 0 0	3 0 0	...	32 0 0	38 0 0	74 0 0
	Dhooma " ...	1 0 0	...	...	56 0 0	...	57 0 0
	Nerbada " ...	...	1 0 0	1 0 0	4 0 0	10 0 0	16 0 0
	Total ...	2 0 0	4 0 0	1 0 0	92 0 0	48 0 0	147 0 0
Compensation.	Chappara Range ...	...	...	242 0 0	176 0 0	...	418 0 0
	Dhooma " ...	...	...	127 0 0	133 0 0	...	260 0 0
	Nerbada " ...	...	...	168 0 0	202 0 0	8 0 0	378 0 0
	Total ...	...	...	537 0 0	511 0 0	8 0 0	1,056 0 0
Totals.	Chappara Range ...	2,343 0 0	3,358 0 0	2,653 0 0	2,558 0 0	2,365 0 0	13,277 0 0
	Dhooma " ...	1,592 0 0	2,141 0 0	1,960 0 0	1,934 0 0	1,593 0 0	9,220 0 0
	Nerbada " ...	1,975 0 0	2,242 0 0	2,334 0 0	2,695 0 0	2,406 0 0	11,652 0 0
	Total ...	5,910 0 0	7,741 0 0	6,947 0 0	7,187 0 0	6,364 0 0	34,149 0 0

UTILIZATION OF THE PRODUCE.

Marketable products; quantity consumed in past years.

25. The demand on these forests is almost entirely local, chiefly for dry fuel, grass, leaves, edible products, thorns and brushwood. The whole of this is given under commutation system. A few poles are often required by the people for the construction of their houses. There is also a small outside demand occasionally for bamboos and teak wood. Local grazing is carried on throughout the ranges. Hurra, lac, hides and horns are leased to contractors annually.



Extract from the Proceedings of the Officiating Chief Commissioner, Central Provinces, in the Revenue Department, No. 4305, *dated Nagpur, the* 23*rd August* 1901.

READ—

Working Plan Report for the forests of the Chapara, Dhooma and Nerbudda Ranges of the Seoni Forest Division in the Northern Circle.

READ ALSO—

Letter No. 38-W.-P., dated the 20th March 1901, from the Inspector-General of Forests, and enclosures.

RESOLUTION.

The Inspector-General of Forests has endorsed the plan, subject to certain remarks which he makes thereon. A list of Addenda and Corrigenda, making the necessary corrections, is hereto appended.

2. The Officiating Chief Commissioner agrees with the Inspector-General of Forests that though the areas in the grazing circle might, as suggested by the Commissioner, Jubbulpore Division, well be fired under Departmental supervision, it is advisable to adhere to the provisions of the plan and bring the unworkable circles under B. class of protection. Mr. Hill has also drawn attention to the fact that the plan does not provide for any cultural operations. Some attempt should be made, wherever feasible, to aid reproduction from seed by artificial cultivation.

3. With these remarks the Officiating Chief Commissioner sanctions the plan, which will come into force with effect from the open season of 1901-02.

ORDER.—Ordered, that a copy of this Resolution be forwarded to the Government of India in the Department of Revenue and Agriculture for information, and transmission to the Inspector-General of Forests and to the officers noted on the margin.

Conservator of Forests, Northern Circle.
Commissioner of the Jubbulpore Division.
Deputy Commissioner, Seoni.
Reporter on Economic Products to the Government of India.

[True Extract.]

H. A. CRUMP,

Chief Secretary to the Chief Commissioner,

Central Provinces.

No. 38-W. P., dated Calcutta, the 20th March 1901.

From—H. C. HILL, Esq., Inspector-General of Forests to the Government of India,

To—The Secretary to the Hon'ble the Chief Commissioner of the Central Provinces, Revenue Department.

In accordance with Article 88 of the Forest Department Code I have the honour to forward, for the orders of the Hon'ble the Chief Commissioner, a working-plan (with 6 tracings) for the forests of the Chapara, Dhooma and Nerbudda Ranges in the Seoni Division, received from the Conservator, Southern Circle, under cover of his letter No. 3523, dated the 5th ultimo, a copy of which is enclosed. Subject to the following remarks I approve of its provisions and beg to recommend them for sanction with effect from the forest year 1900-01.

2. The plan has been drawn up in accordance with the preliminary proposals accepted by me, with the exception that instead of forming three working circles corresponding to the three ranges, the areas in each range have been divided into a workable, an unworkable, and a grazing circle. I agree to this arrangement.

3. It will be observed from his letter No. 10855, dated the 12th November 1900, that the Commissioner of the Jubbulpore Division objects to the proposals made for the partial fire-protection of the unworkable and grazing circles. Although I think that in the present instance the firing of the grazing areas may be agreed to if carried out under proper supervision, I am of opinion that it will be advisable to bring the unworkable circles under B. class of protection as proposed in the plan.

4. No cultural operations are prescribed or recommended, and it is not known whether temporary cultivation is feasible in the areas; but attempts should, I think, be made if possible to aid reproduction from seed.

5. A list of some apparent errors noticed in this office is attached, and I beg to request that after they have been verified by the Conservator, all the copies of the plan may be corrected before distribution.

Secretariat Press, Nagpur :—R. D., 26-8-1901—80.

Working-plan Report of the Chappara, Dhooma and Nerbada Ranges in the Seoni Forest Division.

ERRATA.

1. Introduction.—In the third line of the 1st clause *for* "25" *read* "215."

2. Page 7.—Against A-VIII-*a*, Dhooma Range, *for* "Rs. 219-0-0" in the last column *read* "Rs. 209-0-0." Total *for* "Rs. 540-0-0" *read* "Rs. 530-0-0."

3. Paragraph 45—

Working Circle	I,	against	Bijna	No. II	*for*	"295"	*read* "294"
Do.	IV	,,	Adegaon	No. I	,,	"327"	,, "326"
Do.	,,	,,	Nagandeori	,,	,,	"513"	,, "512"
Do.	,,	,,	Raichur	,,	,,	"..."	,, "385"
Do.	VII	,,	Baigapiparia	,,	,,	"266"	,, "265"
Total of Chappara Working Circle				No. I	,,	"1,508"	,, "1,507"
Do.		do.		No. IV	,,	"1,398"	,, "1,781"
Do.		do.		No. VII	,,	"1,507"	,, "1,506"
				Grand Total	,,	"4,413"	,, "4,794"

4. Paragraph 48.—Felling Statement, Chappara Working Circle.—In the Mari Patan Felling Series, Compartment No. 9, *for* "239" *read* "234."

5. Paragraph 60.—Against "4 paid vendors at Rs. 7-0-0 per mensem" *for* "Rs. 376-0-0" *read* "Rs. 336-0-0."

Total *for* "6,100" *read* "6,060."

6. Paragraph 62.—Against "Grass" in the last column *for* "Rs. 110-0-0" *read* "Rs. 891-4-0."

Total *for* "Rs. 24,367" *read* "Rs. 25,148-4-0."

On page 19—Salary of Establishment—*for* "6,100" *read* "6,060."

Total *for* "Rs. 14,367" *read* "14,327."

In the second line *for* surplus of "Rs. 10,000" *read* "Rs. 10,821."

7. Appendix C—

Working Circle I, 2nd and 5th lines, *for* "Baswellia thurifera" *read* "Boswellia thurifera."

Second line *for* "Anogeisus latifolia" *read* "Anogeissus latifolia."

Second line *for* "Zizyphus Xylopra" *read* "Zizyphus xylopyra."

Second and third lines *for* "Ougeinia Dalbejioides" *read* "Ougeinia dalbergioides."

Third line *for* "Diospyros melonxylon" *read* "Diospyros Melanoxylon."

Working Circle IV—Third line *for* "Baswellia thurifera" *read* "Boswellia thurifera."

Working Circle VII—Third line *for* "Lebidicropois orbicularius" *read* "Lebidieropsis orbicularis" or rather "Cleistanthus collinus."

8. Appendix E, page 41—Grand Total *for* "242,415·90" *read* "252,415·90."

Secretariat Press, Nagpur:—T. P. R., 16-7-1901—80

APPENDIX F.

A list of trees and shrubs which have been noted occurring in the forests of the Northern Ranges.

Natural order.	Botanical name.	Local name.	Remarks.
Anonaceæ ...	Milinsa velutina. Hook. ...	Kari ...	A small tree; leaves aromatic.
	Anona squamosa. Linn. ...	Sittafal sharifa ...	A small tree with a short trunk.
Capparideæ ...	Capparis horrida. Do. ...	Waghati katerin ...	A climbing shrub.
	Cratæva religiosa. Forst ...	Karangi pipal ...	A moderate-sized tree with trifoliolate leaves.
Bixineæ ...	Cochlospermum gossypium. D. C. ...	Gubdi gongal ...	A small tree; leafless in the cold weather; flowers handsome.
	Flacourtia Ramontchi. L'Herit ...	Kakai ...	A small tree; thorny diœcious tree; fruit edible.
Tamariscineæ ...	Tamarix dioica. Roxb. ...	Jhao ...	A gregarious shrub found in river beds.
Malvaceæ ...	Kydia calycina. Do. ...	Bhoti Baranga ...	A small tree with soft wood.
	Bombax malabaricum. D. C. ...	Semar saori ...	A large tree; branches in whorls; cotton used.
Sterculiaceæ ...	Sterculia urens. Roxb. ...	Garlu Karu ...	A tree; leaves on long petioles. Five lobed.
	Do. villosa. Do. ...	Buti udal ...	A tree; leafless in cold weather; five to seven lobed.
	Helicteres Isora. Linn. ...	Marorphal atai ...	A shrub; fruit composed of spirally twisted carpets.
	Eriolæna hookeriana. W. and A. ...	Bothee ...	A small tree with grey bark.
Tiliaceæ ...	Grewia tiliæfolia. Vahl. ...	Dhamin kesla ...	A moderate-sized-tree; wood used for agricultural implements.
	Do. asiatica. Heyne ...	Dhamin ...	A small tree with a dark coloured bark.
Rutaceæ ...	Feronia Elephantum. Correa ...	Kawit ...	A large tree with dark grey bark; fruit eaten.
	Ægle Marmelos. Do. ...	Bet mabka ...	A small tree; fruit used medicinally.
Simarubeæ ...	Balanites Roxburghii. Planch ...	Hingan ...	A small tree with grey bark.
	Ailantus excelsa. Roxb. ...	Maharukh mahanim ...	A tree; the leaves have an unpleasant odour when crushed.
Burseraceæ ...	Boswellia thurifera. Colebr. ...	Salai ...	A tree yielding fragrant gum resin.
	Garuga pinnata. Roxb. ...	Kakar ...	A large tree; leafless during the cold weather.
Meliaceæ ...	Melia indica. Brandis ...	Nim ...	A small tree; flowers white.
	Soymida febrifuga. Hook. ...	Rohan rohaini ...	A large tree; wood used for building posts.
	Chloroxylon swietenia. D. C. ...	Bhera bhirya ...	A moderate-sized tree; wood largely used.
Olacinæ ...	Olax scandens. Roxb. ...	Harduli ...	A large rambling shrub; sometimes a climber.
Celastrineæ ..	Celastrus paniculata. Willd ...	Malkangni ...	A scandent shrub with yellow corky bark.
	Do. senegalensis. Lam. ...	Bharati ...	A tall spinescent shrub
	Elæodendron Roxburghii. W. and A....	Aran ...	A tree; the root is said to be specific for snake-bite.

APPENDIX F.—(*Contd.*)

Natural order.	Botanical name.	Local name.	Remarks.
Rhamneæ ...	Zizyphus Jujuba. Lamk. ...	Ber bor ...	A moderate-sized tree; fruit ovoid and eaten.
	Do. nummularia. W. and A. ...	Jhirberi ranbor ...	A common dwarf straggling bush.
	Do. Œnoplia. Mill. ...	Erun ...	A straggling shrub; leaves small distichous.
	Do. xylopyra. Willd ...	Ghoti ghotar ...	A large straggling shrub; fruit not edible.
	Ventilago maderaspatana. Gærtn ...	Lokhandi ...	A large climbing shrub; the root is used as a dye.
Sapindaceæ ...	Schleichera trijuga. Willd. ...	Kosam ...	A large tree; leaves pinnate coriaceous when old.
Anacardiaceæ ...	Mangifera indica. Linn. ...	Amb, amba, markie ...	A large evergreen tree; not really wild.
	Buchanania latifolia. Roxb. ...	Achar, char ...	A tree; leafless only for a short time.
	Odina Wodier. Roxb. ...	Mowai, saka, ghodi ...	A large tree; leafless for some months.
	Semecarpus Anacardium. Roxb. ..	Bhilawa, biba, kubka ...	The marking-nut tree.
Moringeæ ...	Moringa pterygosperma. Gartu ...	Sohajna, munga ..	A large tree with yellowish corky bark.
Leguminosæ ...	Indigofera. Linn. ...	Niljangli ...	A small under-shrub to be seen on grassy plains.
	Erythrina indica. Lam. ...	Panjra, harua ...	A small tree with thorns on stem.
	Millettia auriculata. Baker ..	Nasbel ...	A large and destructive climber.
	Ougeinia dalbergioides. Benth. ...	Tunias, tivus ...	A small tree with a trifoliolate leaf.
	Abrus precatorius. Linn. ...	Gung ...	A small climber; seeds red with a black eye.
	Butea frondosa. Roxb. ...	Palas ...	A moderate-sized tree; the root is used for rope making.
	Do. superba. Roxb. ...	Bel, palas ...	A scarlet flowered climber with trifoliolate leaves.
	Dalbergia Sissoo. Roxb. ...	Shisham ...	A large tree; the wood seasons well.
	Do. latifolia. Roxb. ...	Kalarukh ...	A deciduous tree with yellow bark.
	Pterocarpus Marsupium. Roxb. ...	Bija, bula, bijo ...	A large tree; wood durable and seasons well.
	Cassia Fistula Linn. ...	Amaltas, bahawa ...	A moderate-sized tree with yellow flowers.
	Bauhinia purpurea. Linn. ...	Sonakinlar bhosa, dundra.	A small tree with tomentose leaves.
	Do. acuminata ...	Kuchnar ...	A small tree with tomentose leaves.
	Do. Vahlii. W. and A. ...	Mohul, pondur ...	A climber.
	Do. malabarica. Roxb. ...	Amta, khutna ...	A small tree with acid tomentose leaves.
	Do. racemosa. Lam. ...	Ashta, sihara ...	A small tree; leaves not acid.
	Tamarindus indica. Linn. ...	Imli, chinch dumdera ...	A large evergreen tree cultivated for its fruit.
	Xylia dolabriformis. Benth. ...	Suriya ..	A large evergreen tree; wood very hard and durable.
	Acacia arabica. Willd ..	Babul ...	A moderate-sized tree with dark-brown bark.
	Do. leucophlœa. Willd ...	Hewar ...	A fairly large tree; wood durable and takes polish.

APPENDIX F.—(*Contd.*)

Natural order.	Botanical name.	Local name.	Remarks.
Leguminosæ. —(*Contd.*)	Acacia Catechu. Willd ...	Khair ...	A deciduous thorny three; grows quickly when young.
	Do. Intsia. Willd ..	Chillate ..	A large climbing shrub.
	Albizzia Lebbek. Benth ...	Sirus, chichola ...	A large tree; the wood is fairly durable.
	Do. odoratissima. Benth ...	Chichwa ...	A large tree; bark dark-grey.
	Do. procera. Do. ...	Sirus, kinhi ...	A large tree; greenish white.
	Do. Thompsoni. Brandis ...	Sillari ..	A large tree with short trunk and spreading branches.
Rubiaceæ ...	Ixora parviflora. Vahl. ...	Lokhandi ...	An evergreen shrub; branches used as torches.
Sapotaceæ ...	Bassia latifolia. Roxb. ...	Mohwa ...	A large tree; leaves coriaceous and in clusters.
	Mimusops indica. A. D. C. ...	Khirni ...	A large evergreen tree; fruit eaten.
Ebenaceæ ...	Diospyros Melanoxylon. Roxb. ...	Tendu, timbruni ...	A large tree; fruit edible.
	Do. montana. Do. ...	Eikh, temri, tendu ..	A small tree with smooth bark.
Oleineæ ...	Schrebera swietenioides. Do. ...	Mokha ...	A large tree; wood durable.
	Nyctanthes Arbor-tristis. Linn. ...	Harsingur, kharasli ...	A large shrub with rough leaves and fragrant flowers.
Apocyneæ ...	Holarrhena anti-dysenterica. Wall. ...	Indrajan ...	A small tree; bark and leaves used medicinally.
	Wrightia tomentosa. Roem. ...	Kala, indrajan ...	A small tree; the root being used for snake-bites.
	Do. tinctoria. R. Br. ...	Kala, kura ...	A small tree; leaves used for dyeing.
Loganiaceæ ...	Strychnos potatorum. Linn. ...	Nirmali, kani and tondrs...	A small evergreen tree; the root is used to clear muddy-water.
Boragineæ ...	Cordia Myxa. Linn. ...	Gondni ...	A small tree; the bark used for making ropes.
	Do. Macleodii. Hook. ...	Lessora, bhokra, rusalla ...	A small tree, with thick grey bark.
	Ehretia lævis. Roxb. ..	Datranga ...	A small tree with grey bark; leaves eaten.
Bignoniaceæ ...	Dolichandrone falcata. Seem. ...	Mersing ...	A small tree; flowers white; leaves small.
	Heterophragma Roxburghii. D. C. ...	Palung ...	Flowers rose-coloured.
	Stereospermum suaveolens. D. C. ...	Bara padar ...	A large tree; wood fairly durable.
	Do. chelonoides. D. C. ...	Chhota padar ...	A large tree; roots and flowers used medicinally.
Verbenaceæ ...	Tectona grandis. Linn. ...	Sagun, saigee, teka, kursi.	A large timber tree.
	Gmelina arborea. Roxb. ...	Khamer, sewan ...	A large timber tree; wood durable under water.
	Vitex Negundo. Linn. ...	Nargundi ..	A shrub; the root is employed as a febrifuge.
Loranthaceæ ...	Loranthus longiflorus. Desr. ...	Banda ...	A parasitical shrub with handsome red flowers.
Urticaceæ ...	Ficus bengalensis. Linn. ...	Bargad war ...	A large evergreen tree.
	Do. religiosa. Do. ...	Pipal, ali ...	A large tree sacred to the Hindus.
	Do. glomerata. Roxb. ...	Gular, umar ..	A large tree; the fruit is eaten.
	Ulmus integrifolia Do. ..	Popri ...	A large deciduous tree.

APPENDIX F.—(*Concld.*)

Natural order.	Botanical name.	Local name.	Remarks.
Euphorbiaceæ ...	Phyllanthus Emblica. Linn. ...	Aonla, nali ...	A moderate-sized tree; the fruit is eaten.
	Briedelia retusa. Sprengel. ...	Kasaigi, Katsani ...	A large tree spinescent when young.
	Mallotus philippinensis. Mull. ...	Shendri ...	A small evergreen tree; fruit a three-celle capsule.
	Lebidieropsis orbicularis. Do. ...	Gurari, garra ...	A small tree used for building poles.
Combretaceæ ...	Terminalia bellerica. Roxb. ...	Bahera, bahara, tahka ...	A large tree; wood used for agricultural imple ments.
	Do. Chebula. Retz. ...	Harra, hirda ...	A tree; wood fairly durable.
	Do. tomentosa. W. and A. ...	Saj, yen, mard ...	A large timber tree.
	Do. Arjuna. Bedd. ...	Kahna, anjan ...	A large tree, found on the banks of nalas.
	Calycopteris floribunda. Lam. ...	Kukurranj ...	A climbing shrub.
	Anogeissus latifolia. Wall. ...	Dhawra, adma ...	A timber tree used for cart axles.
	Do. acuminata. Do. ...	Phas ...	A large tree; with a dark-grey rough bark.
Myrtaceæ ...	Eugenia jambolana. Lam. ...	Jamun, jamdi ...	An evergreen tree; the fruit is eaten.
	Barringtonia acutangula. Gartu. ...	Piwar ...	A moderate-sized evergreen tree.
	Careya arborea. Roxb. ...	Kumbhi, kummar ...	A moderate-sized tree; leaves turn red in cold weather.
Lythrarieæ ...	Woodfordia floribunda. Salisb ...	Jhilmilli, dhawai ...	A large shrub with smooth bark.
	Lagerstrœmia parviflora. Roxb. ...	Sena ...	A large tree, wood elastic.
Samydaceæ ...	Casearia tomentosa. Do. ...	Lenga, kari ...	A small tree; bark bitter.
Rubiaceæ ...	Adina cordifolia. Hf. and Benth ...	Haldu, mundi ...	A large tree; the wood seasons well.
	Stephegyne parvifolia. Korth. ...	Kaini, kadamb, mundi ...	A large tree; the wood is easily worked.
	Hymenodictyon excelsum. Wall. ...	Bhurker, bharsal, potur ...	A large tree; wood used for plough-shares.
	Randia uliginosa. D. C. ...	Pendra ...	A small tree; the fruit is eaten.
	Do. dumetorum. Lamk. ...	Mainphal, gera ...	A small thorny tree.
	Gardenia lucida. Roxb. ...	Dikamali ...	Do. do.
	Do. latifolia. Aiton. ...	Banderluddii ...	A small tree.
	Do. gummifera. Linn. ...	Dikamali ...	Do.
	Do. turgida. Roxb. ...	Khurpendea ...	A small thorny tree.
Palmæ ...	Borassus flabelliformis. Linn. ...	Tori ...	A large tree with a three-celled capsule.
	Phœnix sylvestris. Roxb. ...	Sindi ...	A tree of ashy grey foliage.
Gramineæ ...	Dendrocalamus strictus. Nees. ...	Bans ...	The common bamboo.
	Bambusa arundinacea. Retz. ...	Katang ...	The thorny bamboo.

Secretariat Press, Nagpur:—T. P. R., 5-6-1901—80.

No. 3523

FROM

A. SMYTHIES, ESQ., B. A.,

CONSERVATOR OF FORESTS, SOUTHERN CIRCLE,

Central Provinces

TO

THE INSPECTOR-GENERAL OF FORESTS
TO THE GOVERNMENT OF INDIA,

Calcutta.

Nagpur, the 5th ~~January~~ February 1901.

SIR,

In accordance with Section 88 of the Forest Department Code, I have the honour to forward two printed copies of the Working-Plan Report for the three Northern Ranges of the Seoni Division, which formed the subject of correspondence ending with your No. 215-W. P., dated the 18th November 1898, together with a letter No. 10855, dated 12th November 1900, from the Commissioner, Jubbulpore Division.

2. In the preliminary report, which was approved of by you in the letter first quoted, it was proposed to form three working circles corresponding to the three ranges. In the present plan, each range has been divided into a workable circle, an unworkable circle, and a grazing circle. Thus in all we have nine working circles with areas constituted as follows:—Workable area, 144,054 acres; Unworkable area, 41,329 acres; Grazing area, 44,900 acres. The workable area in each range forms one working circle and is divided into a certain number of felling series (see para. 35).

3. In your letter quoted above, it was suggested that the possibility of extending fire-protection to the unworkable areas of Circles II and III should be considered. This referred to the then unworkable areas of the Dhooma and Nerbada Ranges only, as it was not contemplated that any unworkable area would be found in the Chappara Range.

4. In the present working-plan now submitted, it is proposed (*vide* para. 55) to place each compartment as it is worked over under strict fire-protection of the kind known in these Provinces as A class. This would bring a fresh area of about 4,800 acres under protection every year. It is further proposed to extend partial protection of the kind known as B class gradually over the whole remaining workable and unworkable areas within a period of 10 years, while the grazing areas would have no special protection beyond that comprised in C class. To this proposal the Commissioner demurs. He would abolish C class protection altogether in the grazing areas and would like to see the unworkable areas burnt over early in the season before the time of flowering and seeding by way of experiment in tree reproduction.

5. Though I am unable to agree with the Commissioner in his views regarding the growth of grass being improved by firing, I think that in the present case there will be no harm in allowing the grazing area, which amounts to only 19 per cent. of the whole, to be burnt over in the interests of the people and their requirements. If the area is heavily grazed over, the fires will probably not be very severe. With regard to the unworkable areas, I think it will be time enough to undertake the fire-protection of these when we have succeeded in

extending protection to the whole of the workable area which constitutes about 63 per cent. of the whole. This alone will be a great step in advance, as practically all these forests are now burnt every year.

6. The question as to what should be done in forests ~~were~~ where long-continued fire-protection has failed to secure reproduction by seed is interesting and important; it has been discussed in para. 38 of the Forest Administration Report for the Northern Circle, Central Provinces, 1899-1900. For years past this question has engaged the attention of Forest Officers and is not likely to be lost sight of, but it would be out of place to discuss it here.

7. With these remarks, I recommend that the plan be sanctioned.

I have the honour to be,

Sir,

Your most obedient Servant,

A. SMYTHIES,

Conservator of Forests,

Southern Circle, Central Provinces.

No. 10855, dated Jubbulpore, the 12th November 1900.

From—J. B. FULLER, Esq., I. C. S., C. I. E., Commissioner, Jubbulpore Division,

To—The Conservator of Forests, Southern Circle, Central Provinces.

I have the honour to forward with the following remarks letter No. 3173, dated the 15th ultimo, from the Deputy Commissioner, Seoni, together with the Seoni Forest Divisional Officer's Final Working-Plan* for the Northern Ranges of the Government Forests of this district.

* With maps.

2. These forests lie in the Lakhnadon Tahsil and are very remote from centres of consumption. The villages which surround them are generally small, and the country is sparsely populated. The area of private forest is large, and there is but small demand for timber from the Government reserves. Over 80 per cent. of the income now received by Government is from grazing fees and commutation dues for dry wood, grass, thorns and the like, and I see that the Forest Divisional Officer estimates that under a properly elaborated system of management, these receipts will still constitute almost as large a share of the total as they do at present. It has been the practice in this tahsil for some years past to collect grazing dues and dues for minor produce on the basis of village assessment lists and not by sale of licenses. This policy has recently been reaffirmed and extended. We must remember then that we are dealing with, so to speak, regular customers whose interests require very careful consideration.

3. The area of the forest is 230,283 acres. A considerable portion of it has as yet never even been brought under the Forest Act, and at present those who consent to pay forest dues can graze and cut grass where they please. Timber is sold on license, but the licensee can cut where he pleases. Fire-protection is merely nominal and a large portion of the forests is burnt over annually.

4. It is proposed to divide the 230,283 acres into three classes :—

144,054 acres will be brought under systematic working (A); 41,329 acres will be left as unworkable (B); 44,900 acres will be treated as grazing areas pure and simple (C).

Persons having cattle to graze will have annually open to them the whole of B and C and $\frac{2}{3}$rds of A. The result will be that they will lose about 20 per cent. of the area now grazed over. I think that this is a considerable loss. But I do not wish to oppose these proposals on its account. Persons who wish to procure dry wood, grass and thorns, &c., will have the whole area open to them as at present. Green timber will only be procurable in future from B and C areas and from $\frac{1}{30}$th of A. That is to say, the available area will be diminished by nearly 50 per cent. But the demand for green timber is small, and I do not expect it to increase largely. The only question is as to the distances which people will have to travel. In the three ranges 17 compartments will be annually open, and the Forest Divisional Officer states that there will always be an open compartment within six miles of a village. I should say that this will suffice.

5. Where I feel doubt is in respect to the proposals for fire-protection. It is proposed to bring the grazing areas under C class protection and the unworkable areas and the working circles under B class protection, and to gradually extend A class protection to the working circles as operations develop. There seems to be overwhelming evidence in support of the view that the growth of grass is improved by firing. This is the universal opinion of the villagers who, in a matter of this sort, can be trusted to know their own interests; it is the opinion of some experienced Forest Officers, and it has been borne out by experience gained in the course of the grass-cutting operations of the past year. If it is not accepted, the matter is of sufficient importance to call for special enquiry. If it is accepted, then it is wrong to fire-protect grazing areas: they should indeed be regularly burnt. I think that the people should be allowed—moreover encouraged—to burn over the 44,900 acres which are set aside for grazing. My experience is that fire-protection of C class may cause more

harassment to the villagers than fire-protection on a more regular system. There are no fire-guards and not always fire lines, and the Department simply relies for success on the fear it can instil of the penal law, which applies, be it remembered, not only to those who kindle fire within the forests, but to those who kindle it on private land outside them. The policy affords great scope for oppression to Forest subordinates, who, when a fire has occurred and an enquiry has been ordered, are anxious of course to bring home responsibility to some one. I am generally averse to fire-protection of C class. But in the case of grazing areas, I am against any fire-protection whatever.

6. I will venture to go further and to advance an opinion that even in the case of areas which can grow timber of some kind, we have gone too far in absolutely barring fire. No one can examine the fire-protected forests of these Provinces without a feeling of surprise that there should be so little natural reproduction to reward our efforts. Yet there must have been natural reproduction at some time in the history of these lands, although it is difficult to believe that they have not been from time immemorial liable to fires. May it not be that the damage caused by a forest fire depends in very great measure on the season at which it occurs, and that if it passed over the ground during the cold weather, when trees are generally lifeless, it would injure their flowering and fruiting but little while providing a suitable bed for their seeds? I do not of course dispute the position that annual fires are incompatible with tree reproduction. But I think that occasional fires, early in the season, might, if they coincided with a heavy seeding season and a favourable monsoon, start the renovation our jungles lack at present, and I should much like to see this idea given a trial on the areas which are classed as "unworkable" in the present working-plan.

No. 3173, dated Seoni, the 15th October 1900.

From—A. MAYNE, Esq., I. C. S., Deputy Commissioner, Seoni,

To—The Conservator of Forests, Southern Circle, Central Provinces.

[*Through the Commissioner, Jubbulpore Division.*]

In forwarding the Final Working-Plan Report for the three Northern Ranges of this district, I have the honour to state that I have discussed with the Forest Divisional Officer his proposals and am satisfied that his scheme will afford adequate facilities for the nistar of the people living near in the matter of grazing and of the supply of forest produce. There is at present practically no outside demand for either. The villages near Government forests have many of them extensive jungles of their own. There is no risk of agriculturalists or others being put to serious inconvenience by the system of working proposed.

2. At the same time I must confess that I hardly think that a case has been made out for the considerable increase in expenditure proposed by the Forest Divisional Officer. Para. 24 of his report shows that the average income and expenditure of the five years ending 1898-99 was Rs. 22,885 and Rs. 8,830 respectively. The Forest Divisional Officer anticipates an income of Rs. 24,367, the previous average figure quoted having been brought unduly low by the inclusion of a year of famine. His proposals, if carried fully into effect, will involve an expenditure of Rs. 14,367, being an increase of Rs. 5,537 per annum above the present cost of managing the three ranges. Rupees 4,500 of this increase will be due to the cost of fire-protection, and the balance to the entertainment of a higher-paid staff and provision of better accommodation for them, &c. At present the forests are to a considerable extent burnt over each year—*vide* para. 22 of Report. The inhabitants are firmly convinced that only by such burning can good grazing be secured. With the Gonds of that part it is considered a pious act to burn a block of forest. I should recommend our proceeding very cautiously and economically in the matter of fire-protection, confining our attention for the present to the parts of the Nerbada Range which will be accessible to the Satpura Railway.

WORKING-PLAN REPORT OF THE NORTHERN RANGES IN THE SEONI DIVISION, SOUTHERN CIRCLE, CENTRAL PROVINCES.

Area 361 square miles.

INTRODUCTION.

1. A preliminary report drawn up by Mr. Narayan Prasad Bajpai, Extra-Assistant Conservator, in September 1898 was approved of by the Inspector-General of Forests in his No. 25-Working-plan, dated the 18th November 1898.

2. The collection of data for the plan was commenced by Mr. Rama Rao, Forest Ranger, and continued and completed by me.

3. No expenses were incurred in the preparation of the plan, and the local knowledge of the Range Officers has been utilized as far as practicable.

PART I.

SUMMARY OF FACTS ON WHICH THE PROPOSALS ARE BASED.

DESCRIPTION OF THE TRACT DEALT WITH.

Name and situation.

4. All Government Forest Reserves lying to the north of the town of Seoni, between the rivers Nerbada and Wainganga, together with the Gangai and Barbaspur Reserves which lie along the southern bank of the Wainganga, form three distinct charges called the Chappara, the Dhooma and the Nerbada Ranges, mentioned herein as the Northern Ranges.

These forests lie on both sides of the Great Northern Road wholly in the Lakhnadon Tahsil. The nearest points are 16 miles from Seoni and 23 miles from Jubbulpore.

5. The Northern Ranges are bounded on the north by the Jubbulpore and Mandla Districts, east by the Mandla District, south by the Seoni Tahsil of the Seoni District, and west by the Chhindwara and Narsinghpur Districts.

Configuration of the ground.

6. The forests are all mostly hilly and the hills are as a rule rocky and rather steep cut up by nallas and ravines which drain northwards into the Nerbada and southwards into the Wainganga. All aspects are represented, but the northern and southern aspects predominate. The height above the sea-level varies from 1,800 feet to 2,200 feet.

Underlying rock and soil.

7. The rocks are mostly trap, but laterite, gneiss, quartz and limestone occur in several places. The soil of the different reserves varies, but a poor mooram soil formed from the disintegration of trap, laterite and quartz is the most common. Black mould and fairly rich sandy soil occur in certain flat areas, but their proportion compared with the above areas is insignificant and may be overlooked.

8. The climate of the Nerbada Range is colder than that of the other two ranges. The rains usually commence about the middle of June and close towards the middle of September. The cold weather lasts from November to February, and the hot weather from March to June. In the Nerbada Range the mornings and evenings are chilly throughout the year.

Climate.

9. The average rainfall taken from official statistical reports varies from 50 to 53 inches. Nearly the whole of this falls between the 1st of July and 15th September. The average for the past 32 years is 51·05 inches.

Rainfall.

10. The population is chiefly agricultural. The crops are principally wheat, juari, gram, cotton, rice and pulses. The wants of the people in respect of forest produce are grazing, grass, dry fuel, bones, thorns, edible products and brushwood. A few poles of girth under two feet are occasionally required by the people to build their houses. Traders from Jubbulpore sometimes carry teak timber 1 to 4 feet in girth and bamboos from felling series numbers 1 to 4 of the Nerbada Working Circle.

Agricultural customs and wants of the people.

THE COMPOSITION AND CONDITION OF THE FORESTS.

11. The working scheme deals with A class reserves and unclassed forests, *viz.*, 230,283 acres, the B-I class areas having been excised for purposes of cultivation.

Distribution and area.

12. The distribution of these forests can best be understood by a reference to the maps appended. The forests do not form any compact block, but consist of isolated pieces of various sizes.

13. The area of the forests—*vide* form No. 46 for 1899-1900—is detailed below in miles:—

Ranges.	A Class.	Unclassed.	B-I Class.	Total.
Chappara Range	61	43	14	118
Dhooma Range	34	77	5	116
Nerbada Range	99	35	14	148
Total ...	194	155	33	382

14. These areas are not correct and will be corrected on receipt of maps from the Forest Survey of India. The approximate area however is 361 square miles of A class reserves and unclassed forests and 33 square miles of B-I class forests.

15. The Settlement of the Chappara Range unclassed forests is in progress and will soon be completed. That of the unclassed forests of the Dhooma and Nerbada Ranges will soon be taken up.

16. Twenty-one thousand one hundred and fifty-eight acres, or 33 square miles, of forests in the three ranges have been selected to be made available for cultivation and sanctioned by the Chief Commissioner as shown in para 18.

17. The forests are fully demarcated by means of cleared lines 30 feet wide marked with stone cairns at suitable distances and salient points, each with a numbered post except where the boundary runs along a nala or a river. The numbering of the pillars is mauzawar. The lines are cleared annually.

State of the boundaries.

18. The Bijna, Baruband, Sherkamar, Nerbada, Rajarwada, Kakartola, Hiranbhata, Rotto, Bharwa Kachhar and Dhooma blocks were notified " Reserves " under Section 34 of the Indian Forest Act (VII of 1878) in the *Central Provinces Gazette* of 20th February 1879, by Notification No. 885, and Tendpani and Amoda by Notification No. 888.

Legal position.

From these areas the following were transferred to B-I class for the introduction and extension of cultivation under the authority noted below :—

Areas.	Acres.
Baruband—Chief Commissioner's Resolutions Nos. 2282, 618 and 4213, dated 28th June 1895, 3rd February 1897, and 28th November 1898, repectively	2,896
Bijna—Chief Commissioner's Notification No. 2386-131, dated the 15th April 1891	5,817
Sherkamar—Chief Commissioner's Resolution No. 4213, dated the 28th November 1898	3,111
Hiranbhata—Secretary to Chief Commissioner's No. 1974-194, dated the 7th April 1890	768
Rotto—Secretary to Chief Commissioner's No. 3170, dated the 5th August 1899...	4,357
Dhooma—Secretary to Chief Commissioner's No. 3170, dated the 5th August 1899...	3,874
Nerbada—Secretary to Chief Commissioner's No. 1974-194, dated the 7th April 1890	65
Bharwa Kachhar—Secretary to Chief Commissioner's No. 3170, dated the 5th August 1899	270
Total ...	21,158

Only the above areas have not as yet been disforested. The rest of the areas were made A class forests under the authority given below :—

Baruband—Chief Commissioner's Resolution No. 618, dated 3rd February 1897.

Bijna—Chief Commissioner's Resolution No. 2386-131, dated 15th April 1891.

Hiranbhata, Kakartola, Rajarwada and Nerbada—Secretary to Chief Commissioner's No. 1974-194, dated the 7th April 1890.

Rotto, Bharwa Kachar, Dhooma, Tendpani or Udaipur, Amoda—Secretary to Chief Commissioner's No. 3170, dated the 5th August 1899.

Sherkamar—Secretary to Chief Commissioner's No. 3433-341, dated the 6th June 1889.

Amoda, Tendpani or Udaipur—Secretary to Chief Commissioner's letter No. 3170, dated the 5th August 1899.

The rest of the forests of the Chhapara Range have been notified under Section 4 of the Indian Forest Act (VII of 1878) and those of the Dhooma and Nerbada Ranges are unclassed forests.

Rights.

19. No rights exist in or over these forests.

Composition and condition of the crop.

20. Owing to past ill-treatment the growth of valuable species consists of small trees which have to some extent grown on old stumps. Teak and salai form the principal species of the crop; saj, tinsa, dhaora, lendiya may be considered secondary; while other less important species occur in varying proportions. For a detailed description of each working circle see Appendix C.

The forests may be divided into three main types:—

(1) Mixed forest without teak.

This type of forest is composed of mixed species, such as saj (*Terminalia tomentosa*), tinsa (*Ougeinia dalbergioides*), salai (*Boswellia thurifera*), aonla (*Phyllanthus emblica*), lendiya (*Lagerstrœmia parviflora*), gubdi (*Cochlospermum gossypium*), palas (*Butea frondosa*), ghoti (*Zizyphus xylopyra*), mahua (*Bassia latifolia*), khair (*Accacia catechu*), dhobin (*Dalbergia paniculata*), and is found chiefly in the three grazing circles in a low and open state.

(2) Mixed forest with teak.

In this type teak predominates and is extending. It is found in almost all the forests with the exception of the grazing circles and felling series numbers 4, 5 and 6 of the Nerbada Working Circle No. VII associated with the species named under type (1).

The growth of teak in very many cases is stunted and crooked.

(3) Mixed forest with teak and bamboos.

Teak and bamboos predominate. It is found in felling series numbers 4, 5 and 6 of the Nerbada Working Circle No. VII. In the Nibargarh block of the Dhooma Range the bamboos are very thin and are not worth mentioning.

The species named under type (1) associate teak and bamboos.

Injuries to which the crop is liable.

21. The chief injuries to be guarded against are forest fires and overgrazing.

SYSTEM OF MANAGEMENT.

Past and present system of management.

22. Under past system of management the great aim of the Department was to make the largest revenue possible by sale of everything for which there was a demand. Conservancy of any description where it interfered with revenue was seldom thought of. But in 1893 the whole area was closed to felling of all green wood except by written permission of the Forest Divisional Officer. So were the thorns for fencing.

Grazing has been allowed everywhere in these forests, and almost all the forests are burnt annually.

The system of commutation is in force in all these ranges and almost all the revenue is derived from grazing and commutation. Under this system each villager pays certain fees per plough or house and is allowed to collect dry fuel, grass, leaves and edible products. What little demand for building wood there is is satisfied by purchasers who are allowed to cut their requirements under the permission of the Forest Divisional Officer, in each case payment being obtained under the license system.

Special works of improvement undertaken.

23. No special works of improvement were undertaken.

Past revenue and expenditure.

24. The revenue and expenditure for the five years ending 1898-99 are given in the statement below :—

REVENUE.

Budget Heads.	Ranges.	1894-95.	1895-96.	1896-97.	1897-98.	1898-99.	Total.
		Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.
R-I-*a* ...	Chappara Range ...	13 10 9	4 8 0	51 6 8	13 8 0	1 0 0	84 1 5
	Dhooma " ...	...	0 9 0	29 10 0	...	...	30 3 0
	Nerbada " ..	38 1 0	...	...	1 15 0	10 0 0	50 0 0
	Total ...	51 11 9	5 1 0	81 0 8	15 7 0	11 0 0	164 4 5
R-I-*b* ...	Chappara Range ...	61 13 9	29 0 0	61 4 6	2 4 0	1 0 0	155 6 3
	Dhooma " ...	...	...	5 6 0	...	...	5 6 0
	Nerbada " ...	...	1 14 0	...	2 11 0	4 0 0	8 9 0
	Total ...	61 13 9	30 14 0	66 10 6	4 15 0	5 0 0	169 5 3
R-II-*a* ...	Chappara Range ...	334 14 3½	97 5 9	107 1 6½	903 8 1	951 12 4	2,394 10 0
	Dhooma " ...	49 8 6	55 9 10	53 12 6	404 4 3	134 11 3	697 14 4
	Nerbada " ...	202 7 4	30 8 5	15 15 9	665 15 10	539 7 11	1,454 7 3
	Total ...	586 14 1½	183 8 0	176 13 9½	1,973 12 2	1,625 15 6	4,546 15 7
R-II-*b* ...	Chappara Range ...	1,237 4 6	48 6 7	55 15 3	61 9 3	122 12 9	1,526 0 4
	Dhooma " ...	604 8 0	31 0 9	14 14 6	21 1 9	38 12 0	710 5 0
	Nerbada " ...	530 15 7	7 6 3	2 4 11	28 1 6	131 4 3	700 0 6
	Total ...	2,372 12 1	86 13 7	73 2 8	110 12 6	292 13 0	2,936 5 10
R-II-*c* ...	Chappara Range ...	...	...	...	0 1 0	3 0 0	3 1 0
	Dhooma " ...	23 15 0	6 4 3	0 15 0	9 15 0	12 11 6	53 12 9
	Nerbada " ...	158 1 0	173 0 3	50 14 0	288 13 6	163 10 0	834 6 9
	Total ...	182 0 0	179 4 6	51 13 0	298 13 6	179 5 6	891 4 6
R-II-*d* ...	Chappara Range ...	7,669 1 11	6,760 5 6	4,046 5 6	5,739 3 0	5,499 2 0	29,714 1 11
	Dhooma " ...	5,836 8 3	5,217 11 3	3,818 14 6	3,316 5 3	3,415 14 6	21,605 5 9
	Nerbada " ...	8,699 2 3	6,049 5 6	4,595 13 3	5,110 14 3	6,566 6 6	31,021 9 9
	Total ...	22,204 12 5	18,027 6 3	12,461 1 3	14,166 6 6	15,481 7 0	82,341 1 5
R-II-*e* ...	Chappara Range ..	1,055 6 4½	406 13 0	380 8 3	423 5 5	400 2 11	2,666 3 11½
	Dhooma " ...	310 2 6	334 4 2	329 0 3	481 8 7	390 9 6	1,845 9 0
	Nerbada " ...	454 2 6	431 15 9	261 4 1	245 3 9	327 2 9	1,719 12 10
	Total ...	1,819 11 4½	1,173 0 11	970 12 7	1,150 1 9	1,117 15 2	6,231 9 9½

REVENUE.—(*Concld.*)

Budget Heads.	Ranges.	1894-95.	1895-96.	1896-97.	1897-98.	1898-99.	Total.
		Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.
R-II-*h* ...	Chappara Range ...	189 11 3	1,457 12 0	588 12 6	2,170 0 9	1,977 14 9	6,384 3 3
	Dhooma " ...	20 12 0	753 5 6	366 13 0	684 1 0	602 13 3	2,427 12 9
	Nerbada " ...	283 9 0	1,402 8 6	296 9 0	907 15 0	1,313 1 0	4,203 10 6
	Total ...	494 0 3	3,613 10 0	1,252 2 6	3,762 0 9	3,893 13 0	13,015 10 6
R-III	Chappara Range ...	...	3 0 0	...	...	...	3 0 0
	Dhooma " ...	...	...	...	...	...	...
	Nerbada " ...	...	...	...	...	...	...
	Total ...	...	3 0 0	...	...	...	3 0 0
R-V-*a* ...	Chappara Range ...	1 0 0	2 0 0	...	...	...	3 0 0
	Dhooma " ...	4 0 0	...	...	...	...	4 0 0
	Nerbada " ...	...	...	...	...	...	...
	Total ...	5 0 0	2 0 0	...	...	...	7 0 0
R-V-*c* ...	Chappara Range ...	587 5 7	116 14 5	133 3 5½	376 15 5	388 15 1	1,603 5 11½
	Dhooma " ...	141 2 3	167 9 6	231 8 9	9 7 6	123 8 10	673 4 10
	Nerbada " ...	325 8 10	107 3 10	277 14 6	285 0 4	846 0 3	1,841 11 9
	Totals ...	1,054 0 8	391 11 9	642 10 8½	671 7 3	1,358 8 2	4,118 6 6½
Totals ...	Chappara Range ...	11,150 4 5	8,926 1 3	5,424 9 8	9,690 6 11	9,345 11 10	44,537 2 1
	Dhooma " ...	6,990 8 6	6,566 6 3	4,850 14 6	4,926 11 4	4,719 0 10	28,053 9 5
	Nerbada " ...	10,691 15 6	8,203 14 6	5,500 11 6	7,536 10 2	9,901 0 8	41,834 4 4
	Total ...	28,832 12 5	23,696 6 0	15,776 3 8	22,153 12 5	23,965 13 4	1,14,424 15 10

EXPENDITURE.

A-I-*a* ...	Chappara Range ...	27 0 0	...	...	...	...	27 0 0
	Dhooma " ...	21 0 0	...	...	...	...	21 0 0
	Nerbada " ...	8 0 0	...	2 0 0	...	...	10 0 0
	Total ...	56 0 0	...	2 0 0	...	...	58 0 0
A-I-*b* ...	Chappara Range ...	95 0 0	...	...	...	...	95 0 0
	Dhooma " ...	35 0 0	...	...	...	...	35 0 0
	Nerbada " ...	21 0 0	...	...	...	...	21 0 0
	Total ...	151 0 0	...	...	...	...	151 0 0

EXPENDITURE.—(*Contd.*)

Budget Heads.	Ranges.	1894-95.	1895-96.	1896-97.	1897-98.	1898-99.	Total.
		Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.
A-II ...	Chappara Range ...	408 0 0	295 0 0	481 0 0	787 0 0	687 0 0	2,658 0 0
	Dhooma " ..	331 0 0	361 0 0	418 0 0	305 0 0	338 0 0	1,753 0 0
	Nerbada " ...	775 0 0	627 0 0	702 0 0	494 0 0	388 0 0	2,986 0 0
	Total ...	1,514 0 0	1,283 0 0	1,601 0 0	1,586 0 0	1,413 0 0	7,397 0 0
A-VII-*a* ...	Chappara Range ...	...	84 0 0	...	...	...	84 0 0
	Dhooma " ...	...	15 0 0	8 0 0	...	...	23 0 0
	Nerbada " ...	...	46 0 0	40 0 0	28 0 0	20 0 0	134 0 0
	Total ...	...	145 0 0	48 0 0	28 0 0	20 0 0	241 0 0
A-VII-*b* ...	Chappara Range ...	4 0 0	472 0 0	46 0 0	59 0 0	37 0 0	618 0 0
	Dhooma " ..	6 0 0	470 0 0	...	117 0 0	42 0 0	635 0 0
	Nerbada " ...	20 0 0	140 0 0	5 0 0	159 0 0	45 0 0	369 0 0
	Total ...	30 0 0	1,082 0 0	51 0 0	335 0 0	124 0 0	1,622 0 0
A-VII-*c* ...	Chappara Range ...	...	...	...	...	4 0 0	4 0 0
	Dhooma " ...	...	...	...	...	...	...
	Nerbada " ...	...	...	...	...	1 0 0	1 0 0
	Total ...	...	...	...	...	5 0 0	5 0 0
A-VIII-*a*...	Chappara Range ...	8 0 0	2 0 0	17 0 0	1 0 0	19 0 0	47 0 0
	Dhooma " ...	...	...	162 0 0	43 0 0	4 0 0	219 0 0
	Nerbada " ...	12 0 0	21 0 0	117 0 0	97 0 0	27 0 0	274 0 0
	Total ...	20 0 0	23 0 0	296 0 0	141 0 0	50 0 0	540 0 0
A-VIII-*b*...	Chappara Range ...	...	...	*Nil.*	...	...	...
	Dhooma " ...	...	...		...	...	...
	Nerbada " ...	...	...		...	...	...
	Total ...	...	...	...	...	...	...
A-VIII-*c*...	Chappara Range ...	...	...	*Nil.*	...	...	...
	Dhooma " ...	...	...		...	...	...
	Nerbada " ...	...	...		...	...	...
	Total ...	...	...	...	...	...	...

EXPENDITURE.—(*Contd.*)

Budget Heads.	Ranges.	1894-95.	1895-96.	1896-97.	1897-98.	1898-99.	Total.
		Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.
A-VIII-*d*....	Chappara Range ...	...	...	...	62 0 0	...	62 0 0
	Dhooma „ ...	...	...	...	74 0 0	...	74 0 0
	Nerbada „ ...	...	...	4 0 0	...	...	4 0 0
	Total ...	...	...	4 0 0	136 0 0	...	140 0 0
A-VIII-*f* ...	Chappara Range ...	5 0 0	27 0 0	6 0 0	3 0 0	...	41 0 0
	Dhooma „ ...	...	25 0 0	5 0 0	3 0 0	...	33 0 0
	Nerbada „ ...	...	26 0 0	9 0 0	6 0 0	2 0 0	43 0 0
	Total ...	5 0 0	78 0 0	20 0 0	12 0 0	2 0 0	117 0 0
A-VIII-*g*....	Chappara Range ...	26 0 0	...	...	...	...	26 0 0
	Dhooma „ ...	...	...	...	...	...	...
	Nerbada „ ...	...	...	...	...	...	...
	Total ...	26 0 0	...	...	...	...	26 0 0
A-IX-*a*.	Chappara Range ...	2 0 0	31 0 0	...	...	...	33 0 0
	Dhooma „ ...	...	...	12 0 0	...	...	12 0 0
	Nerbada „ ...	13 0 0	...	...	...	1 0 0	14 0 0
	Total ...	15 0 0	31 0 0	12 0 0	...	1 0 0	59 0 0
A-IX-*b*.	Chappara Range ...	...	3 0 0	...	...	1 0 0	4 0 0
	Dhooma „ ...	3 0 0	2 0 0	...	...	...	5 0 0
	Nerbada „ ...	...	...	...	...	1 0 0	1 0 0
	Total ...	3 0 0	5 0 0	...	...	2 0 0	10 0 0
B-I-*c*.	Chappara Range ...	1,584 0 0	2,219 0 0	1,634 0 0	1,257 0 0	1,396 0 0	8,090 0 0
	Dhooma „ ...	1,029 0 0	1,044 0 0	1,075 0 0	1,022 0 0	1,027 0 0	5,197 0 0
	Nerbada „ ...	949 0 0	1,149 0 0	1,060 0 0	1,482 0 0	1,677 0 0	6,317 0 0
	Total ...	3,562 0 0	4,412 0 0	3,769 0 0	3,761 0 0	4,100 0 0	19,604 0 0
B-II-*c*.	Chappara Range ...	180 0 0	219 0 0	225 0 0	180 0 0	180 0 0	984 0 0
	Dhooma „ ...	163 0 0	216 0 0	150 0 0	180 0 0	180 0 0	889 0 0
	Nerbada „ ...	176 0 0	229 0 0	209 0 0	210 0 0	210 0 0	1,034 0 0
	Total ...	519 0 0	664 0 0	584 0 0	570 0 0	570 0 0	2,907 0 0

EXPENDITURE.—(*Contd.*)

Budget Heads.	Ranges.	1894-95.	1895-96	1896-97.	1897-98.	1898-99.	Total.
		Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.
B-III-*a*.	Chappara Range ...	2 0 0	2 0 0	1 0 0	...	2 0 0	7 0 0
	Dhooma „ ...	2 0 0	...	1 0 0	...	...	3 0 0
	Nerbada „ ...	...	2 0 0	1 0 0	1 0 0	3 0 0	7 0 0
	Total ...	4 0 0	4 0 0	3 0 0	1 0 0	5 0 0	17 0 0
B-III-E	Chappara Range ...	1 0 0	1 0 0	1 0 0	1 0 0	1 0 0	5 0 0
	Dhooma „ ...	1 0 0	8 0 0	2 0 0	1 0 0	2 0 0	14 0 0
	Nerbada „ ...	1 0 0	1 0 0	16 0 0	12 0 0	13 0 0	43 0 0
	Total ...	3 0 0	10 0 0	19 0 0	14 0 0	16 0 0	62 0 0
B-III-F	Chappara Range ...	1 0 0	3 0 0	...	32 0 0	38 0 0	74 0 0
	Dhooma „ ...	1 0 0	...	...	56 0 0	...	57 0 0
	Nerbada „ ...	...	1 0 0	1 0 0	4 0 0	10 0 0	16 0 0
	Total ...	2 0 0	4 0 0	1 0 0	92 0 0	48 0 0	147 0 0
Compensation.	Chappara Range ...	...	...	242 0 0	176 0 0	...	418 0 0
	Dhooma „ ...	...	...	127 0 0	133 0 0	...	260 0 0
	Nerbada „ ...	...	...	168 0 0	202 0 0	8 0 0	378 0 0
	Total ...	...	...	537 0 0	511 0 0	8 0 0	1,056 0 0
Totals.	Chappara Range ...	2,343 0 0	3,358 0 0	2,653 0 0	2,558 0 0	2,365 0 0	13,277 0 0
	Dhooma „ ...	1,592 0 0	2,141 0 0	1,960 0 0	1,934 0 0	1,593 0 0	9,220 0 0
	Nerbada „ ...	1,975 0 0	2,242 0 0	2,334 0 0	2,695 0 0	2,406 0 0	11,652 0 0
	Total ...	5,910 0 0	7,741 0 0	6,947 0 0	7,187 0 0	6,364 0 0	34,149 0 0

UTILIZATION OF THE PRODUCE.

Marketable products; quantity consumed in past years.

25. The demand on these forests is almost entirely local, chiefly for dry fuel, grass, leaves, edible products, thorns and brushwood. The whole of this is given under commutation system. A few poles are often required by the people for the construction of their houses. There is also a small outside demand occasionally for bamboos and teak wood. Local grazing is carried on throughout the ranges. Hurra, lac, hides and horns are leased to contractors annually.

26. The quantities consumed during the five years ending 1898-99 are given in the statement below :—

Description of produce.	Chappara Range.					Dhooma Range.					Nerbada Range.				
	1894-95.	1895-96.	1896-97.	1897-98.	1898-99.	1894-95.	1895-96.	1896-97.	1897-98.	1898-99.	1894-95.	1895-96.	1896-97.	1897-98.	1898-99.
Timber Cft ...	4,363	1,840	1,248	8,711	9,711	888	855	3,105	9,451	1,808	4,352	412	2,659	5,655	4,215
Fuel ,, ...	14,127	7,908	50,760	12,046	23,918	9,506	7,352	5,270	3,174	3,427	57,686	675	1,385	2,688	15,795
Grass Tons ...	317	150	153	142	162	78	37	51	1	1	1,084	...	3	...	...
Leaves ,, ...	18	6	3	4	6	34	...	1	3	2	107	...	...	...	3
Fibre ,, ...	1	...	5	...	9	1	1	1	...	...	1	...	1	1	2
Thorns ,, ...	85	25	21	55	...	12	13	8	3	5	11	4	5	3	5
Bhaber grass ,, ...	14	2	15	...	...	...	...	...	...	...	...	...	...	...	...
Skins and horns No.	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Mineral products Cft.	...	...	...	...	...	2	2	...	...	...	...	...	...	...	...
Bamboos No. ...	...	...	...	10	400	8,248	705	87	1,326	1,367	24,599	17,708	9,315	38,331	21,464

Commutation system has been in force, and the figures shown above as regards firewood, grass, leaves, fibres and others are estimated, taken from the annual forms.

27. The numbers of each class of cattle that grazed annually during the five years ending 1898-99 are shown in the table below :—

Description of cattle.	Chhapara.					Dhooma.					Nerbadda.				
	1894-95.	1895-96.	1896-97.	1897-98.	1898-99.	1894-95.	1895-96.	1896-97.	1897-98.	1898-99.	1894-95.	1895-96.	1896-97.	1897-98.	1898-99.
Buffaloes ...	4,550	4,655	2,550	4,353	3,945	4,142	4,478	3,393	2,984	3,056	5,594	6,993	4,807	5,798	7,323
Cows and bullocks.	39,284	39,191	23,575	33,385	31,649	28,021	29,377	18,782	16,467	17,569	31,523	44,158	22,465	24,518	31,773
Goats and sheep.	808	1,390	40	92	102	51	864	119	92	102	262	386	119	245	269
Other animals...	...	...	...	...	...	43	85	...	...	...	1	6	...	...	...
Total ...	44,642	45,236	26,165	37,830	35,696	32,257	34,804	22,294	19,543	20,727	37,380	51,543	27,391	30,561	39,365

Lines of export.

28. The following two cart-roads run through these ranges :—

(1) A 1st class Public Works Department road, Seoni to Jubbulpore *via* Chhapara, Lakhnadon and Dhooma.

(2) A 2nd class Public Works Department road, Narsinghpur to Ghansor *via* Lakhnadon and Kahani.

The River Nerbada forming the northern boundary of the Nerbada Range flows towards Jubbulpore. There are no cart-roads leading to either of the two above said roads or the River Nerbada, and therefore the extraction of produce is not an easy matter except from near the roads or the river.

Markets.

29. Jubbulpore is the only market, but the cost of carriage is so high that it renders extraction of produce almost impossible.

Mode of extraction and its cost.

30. Produce is removed by purchasers at their own expense by bullock, kawar or head-loads. The people as a rule employ their servants and cattle in the felling and removal of produce.

31. Some bamboos and teak poles from the forests along the bank of the Nerbada are extracted by floats down the river to Jubbulpore. The cost of felling

and carriage to the Nerbada River from distances within five miles are Rs. 10 per 100 poles of girth under 2 feet or per 1,000 bamboos on the average.

The cost of floating down the river to Jubbulpore is Rs. 5 to Rs. 15 per 100 poles of girth under 2 feet or per 1,000 bamboos according to the distance from which the produce is floated.

The existence of forests in the neighbouring district of Jubbulpore and the cheapness at which the produce is sold there practically lessens the demand for extraction from these ranges, although sometimes it is carried on in spite of these disadvantages.

Net value of each class of produce.

32. Below is the schedule of the prevailing sanctioned rates.

TIMBER.

Girth.	CLASS I—TEAK, BIJA, SHISHAM.				CLASS II—SAJ, TINSA, KOSAM.		CLASS III—OTHER SPECIES.		Remarks.
	WITHIN 5 MILES OF THE NERBADA RIVER.		OTHER PARTS.						
	Per 100.	Each.	Per 100.	Each.	Per 100.	Each.	Per 100.	Each.	
	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	
12" ...	12 8 0	0 2 0	9 6 0	0 1 6	6 4 0	0 1 0	3 10 4	0 0 7	
18" ...	37 8 0	0 6 0	28 2 0	0 4 6	18 12 0	0 3 0	10 15 0	0 1 6	
24" ...	75 0 0	0 12 0	56 4 0	0 9 0	37 8 0	0 6 0	25 0 0	0 4 0	
30" ...	150 0 0	1 8 0	112 8 0	1 2 0	75 0 0	0 12 0	50 0 0	0 8 0	
36" ...	250 0 0	2 8 0	225 0 0	2 4 0	150 0 0	1 8 0	100 0 0	1 0 0	
Above 36" per cubic foot.	...	0 6 0	...	0 4 0	...	0 2 0	...	0 1 0	
	Salai and Gurlor above 3 feet at Re. 0-4-0 per cft.								

FIREWOOD AND OTHER PRODUCE.

Description of produce.	Per 100.	Per bandl load.	Per cart load.	Per dhusur load.	Per kawar load.	Per head load.
Firewood for cultivation.	...	0 2 3	0 1 6	0 0 6	0 0 1½	0 0 1
Do. for others...	...	0 4 6	0 2 6	0 0 9	0 0 3	0 0 2
Charcoal ...	...	...	1 8 0	...	0 2 3	0 1 6
Bamboos, green ...	0 12 0	...	...	...	...	...
Do., dry ...	0 8 0	...	...	...	...	...
Grass ...	...	...	0 1 3	...	0 0 1½	0 0 1
Thorns and leaves ...	...	...	0 1 0	...	0 0 1½	0 0 1
Bakal, sum and baber.	...	...	1 0 0	...	0 2 0	0 1 0
Bharu grass ...	...	...	1 0 0	...	0 2 0	0 1 0

For nistar the rates are :—

Class I.—Malguzars and tenants.	Four annas per plough.
Class II.—Shopkeepers, Baniias, Mohrirs, &c.	Annas 8 per house.
Class III.—Sonars plying their trade.	Rs. 2 per house.
Class IV—Lohars, Kalars using wood in furnaces.	Rs. 3 per house.
Class V.—Iron smelters including iron ore as well as firewood and charcoal.	Rs. 6 for 1 house. Rs. 9 for 2 houses. Rs. 12 for 3 houses, with Rs. 2 extra for each furnace over 3.
Class VI.—Chamars practising tanning.	Rs. 2-8-0 per house.
Class VII.—Labourers	Annas 3 per house.
Paidawar ...	Annas 4 per house.

GRAZING RATES.

	Rs.	a.	p.
Buffaloe per head	0	5	0
Cow, bullock or horse	0	2	0
Sheep	0	1	0
Goat	0	1	6

MISCELLANEOUS FACTS.

The Forest Staff.

33. The present sanctioned staff consists of:—

Designation of posts.	Now occupied by	Cost per annum.	Remarks.
		Rs.	
3 Range Officers ...	1 Forest Ranger on Rs. 100 ...	1,200	
	1 Deputy Ranger on Rs. 30 ...	360	
	1 Forester on Rs. 25	300	
8 Sub-Range Officers ...	3 Foresters on Rs. 15 each ...	540	
	3 Forest Guards on Rs. 12 each ...	432	
	2 do. „ 10 „ ...	240	
3 Range Muharirs ...	3 Range Muharirs on Rs. 8 „ ...	288	
Beat Guards ...	1 Forest Guard on Rs. 10 ...	120	
	5 do. @ Rs. 8 each ...	480	
	7 do. „ „ 7 „ ...	588	
	10 do. „ „ 6 „ ...	720	
	7 do. „ „ 5 „ ...	420	
	Total ...	5,688	

Labour supply.

34. There is seldom any difficulty in obtaining labour. When the crops are being sown and harvested, a little difficulty is experienced, but at other times labour is plentiful and is obtained at from 2 to 3 annas per day.

PART II.

FUTURE MANAGEMENT DISCUSSED AND PRESCRIBED.

BASIS OF PROPOSALS.

Working Circles how composed; reasons for their formation.

35. It is proposed to divide these ranges into 9 working circles, and Working Circles Nos. I, IV and VII into 17 felling series as shown below:—

	Acres.
I.—Chappara Working Circle, comprising—	
1. Mari Patan felling series	7,439
2. Bijna No. I. do.	6,806
3. Bijna No. II. do.	8,827
4. Bijna No. III. do.	11,071
5. Baruband do.	7,622
6. Baragour do.	3,525
II.—Chappara Grazing Circle	10,115
III.—Chappara Unworkable Circle	10,110
Total ...	65,515

IV.—Dhooma Working Circle, comprising—

		Acres.
1. Adegaon No. I felling series	... ...	9,785
2. Adegaon No. II do.	... ...	6,474
3. Sherkumar do.	... ...	10,291
4. Nagandeori do.	... ...	15,365
5. Raichur do.	... ...	11,568
V.—Dhooma Grazing Circle	... ...	12,108
VI.—Dhooma Unworkable Circle	... ...	15,735
	Total ...	81,326

VII.—Nerbada Working Circle, comprising—

1. Baigapiparia felling series	... ...	7,957
2. Dhooma do.	... ...	8,968
3. Bhurwa Kachhar do.	... ...	5,656
4. Rotto do.	... ...	7,954
5. Nerbada No. I do.	... ...	7,011
6. Nerbada No. II do.	... ...	7,735
VIII.—Nerbada Grazing Circle	... ...	22,677
IX.—Nerbada Unworkable Circle	... ...	15,484
	Total ...	83,442

36. Of the above circles, Nos. III, VI and IX will not be worked for the present as there is no demand on them.

It is proposed to divide felling series Nos. 4, 5 and 6 of the Nerbada Working Circle constituting the bamboo felling series into three compartments, one of which will be opened each year.

Compartments; justification of the sub-division adopted.

37. For the 17 felling series in Working Circles Nos. I, IV and VII the usual 30-year rotation has been adopted, and each of these felling series has therefore been sub-divided into 30 more or less equal compartments, as shown in the map and in the statement attached to para. 48.

Circles Nos. III, VI and IX have not been sub-divided into compartments as it is not intended to work them at present.

The Raichur felling series of the Dhooma Working Circle could not be divided into compartments for want of 4″ scale maps showing natural features, and will be divided on receipt of such maps from the Forest Survey of India.

The compartments have been arranged so that, in almost all places, their boundaries follow roads, nalas or such other natural features, and where no such limits are available, they will be demarcated by 10-feet line cut through the forest and marked at suitable intervals with posts surrounded by cairns of stones or munaras, and ditches 6′ × 2′ × 1½′ showing the direction of the boundaries where stones are not procurable.

Analysis of the crop: method of valuation employed.

38. No analysis or valuation survey has been attempted. The circles will be worked on the area check system.

METHOD OF TREATMENT.

Objects sought to be attained.

39. The objects of the working-plan are:—

(1) To obtain a permanent outturn of such small produce as is required locally with as little inconvenience to the people as practicable.

(2) To supply the demand of the people in timber, fuel, grass, grazing and minor forest produce.

(3) To replace the present badly grown crop, so far as the demand will admit, with a better growth from stools.

(4) To encourage a larger proportion of seedling growth especially of teak by the exclusion of grazing and fire.

Method of treatment adopted.

40. The treatment will be uniform in Circles Nos. I, IV and VII, and will consist of improvement fellings of varying intensity, according to local conditions, carried out with the object of removing as much of the bad growth and inferior trees and as many of the better class poles as the demand requires, provided that a minimum of 50 trees per acre of the best individuals of the best species will be reserved as standards.

Bamboo cuttings will be confined to the compartment open for the purpose. Unrestricted removal of grass, minor produce and dead material will be allowed from all the circles. Grazing will be freely allowed in all the grazing and unworkable circles. The felling series have been divided into compartments taking into consideration the grazing requirements so as to cause the least possible inconvenience to the people. It is not expected that the compartments will be fully worked over, but the object in dividing into compartments is more for the closing to grazing and fire-protection purposes than with the idea of their being fully worked over for fuel and timber.

The exploitation age.

41. A rotation of 30 years is generally considered in these provinces to be a sufficient period for supplying small poles such as are required by the people. The demand for poles is very little, but the protection of forests from cattle and fire for a period of 10 years, together with the affording of grazing to the cattle, has necessitated a rotation of 30 years.

THE FELLINGS.

The general working scheme; calculation of the possibility.

42. The general scheme is to limit the fellings to fixed compartments allotted for each year and to work gradually over the area of Circles Nos. I, IV and VII in 30 years.

If a balance remains uncut in the previous year's compartments, such balance may be utilized to meet the demand, provided that the compartments allotted for the year shall be first cut over.

43. There is no reliable data from which the present capability of these forests can be tested, as until recently the outturn was not restricted to any particular area.

Period for which the fellings are prescribed.

44. The fellings have been prescribed for a period of 30 years commencing from 1900-1901.

Areas to be felled annually; order of their allotment.

45. The compartments will be felled over annually as shown in the map and explained in the statement given in para. 48.

The average area to be felled annually is shown below :—

Name of Working Circle.	Name of felling series.	Area in acres.
I.—Chappara Working Circle ...	1. Mari Patan	247
	2. Bijna No. I	226
	3. " " II	295
	4. " " III	369
	5. Baruband	254
	6. Baragour	117
	Total ...	1,508

Name of Working Circle.	Name of felling series.	Area in acres.
IV.—Dhooma Working Circle ...	1. Adegaon No. I	327
	2. " " II	215
	3. Sherkumar	343
	4. Nagandeori	513
	5. Raichur	...
	Total ...	1,398
VII.—Nerbada Working Circle ...	1. Baigapiparia	266
	2. Dhooma	298
	3. Bharwa Kachhar	188
	4. Rotto	265
	5. Nerbada No. I	233
	6. " " II	257
	Total ...	1,507
	GRAND TOTAL ...	4,413

Nature of and mode of executing the fellings; forecast of condition of crop at their conclusion.

46. (*a*) Six months before a compartment is worked, its boundaries should be marked on the ground where no natural features are available by a 10-feet line cut through the forest and marked at suitable intervals with posts surrounded by cairns or munaras and ditches.

(*b*) After the demarcation is complete and before any felling is allowed, the Range and Sub-Range Officers should select and mark all the trees that are to be protected and reserved as standards.

Reserves should be selected in numbers varying from 40 per acre on good soil and in dense timber cover to 80 per acre in open forest and slopes of hills, as far as easily accessible. On very poor and thinly clad areas all timber should be reserved.

(*c*) No well-grown teak trees or good saplings of and under nine inches in girth should be felled. Well-grown sound trees of the better species should be selected for reserves. Healthy fruit trees such as mahua, char and harra, which yield profitable fruit products and are otherwise good for shade and protection, should also be reserved.

(*d*) No fellings should be allowed to approach within 66 feet of any outer boundary or interior line, river bank, road, extensive blank or big ravine.

(*e*) No fellings to be made on the tops of hills which are more or less open.

(*f*) All trees cut must be felled flush with the ground and the stools cleared of branch wood and other impediments to the shoot growth.

(*g*) When compartments have been worked over they should be isolated from the adjoining forest by burnt lines 50 feet wide.

(*h*) No teak leaves will be removed.

47. At the conclusion of the rotation it is expected that the soil and density of the crop will have improved. Straight grown coppice shoots rising direct from the ground will have taken the place of the present badly grown crop so far as the demand admits of this improvement, and a better proportion of seedling growth, especially of the more valuable species, will have been secured.

Tabular statement of fellings to be made.

48. A table showing the allotment of compartments for each year's working is given below :—

Year.	Number of compartment.	CHHAPARA RANGE. I.—Chhapara Working Circle. Felling series. 1 Mari Patan.	2 Bijna No. I.	3 Bijna No. II.	4 Bijna No. III.	5 Barnband.	6 Baragonr.	II. Grazing Circle.	III. Unworkable Circle.	DHOOMA RANGE. IV.—Dhooma Working Circle. Felling series. 1 Adegaon No. I	2 Adegaon No. II.	3 Shergumar.	4 Nagandeori.	5 Raichur.	V. Grazing Circle.	VI. Unworkable Circle.	NERBADA RANGE. VII.—Nerbada Working Circle. Felling series. 1 Baigapiparia.	2 Dhooma	3 Bharwa kuchar.	4 Rotto.	5 Nerbada No. I.	6 Nerbada No. II.	VIII. Grazing Circle.	IX. Unworkable Circle.	Total.
1900-1901	1	390	199	377	243	205	119			233	220	378	340				269	127	262	371	315	207			4,355
1901-1902	2	265	199	371	365	308	119			327	289	448	378				224	240	190	179	188	232			4,322
1902-1903	3	260	192	377	480	231	125			290	261	410	257				193	227	172	250	264	232			4,221
1903-1904	4	213	250	262	339	425	110			216	170	454	410				326	227	156	237	296	295			4,386
1904-1905	5	213	327	217	400	391	114			174	226	435	372				326	355	184	320	188	188			4,430
1905-1906	6	190	320	217	301	365	129			205	191	301	462				263	240	171	250	213	327			4,145
1906-1907	7	204	262	301	505	327	147			443	164	288	769				262	419	179	211	232	143			4,856
1907-1908	8	236	224	294	307	269	111			497	150	384	672				345	291	166	211	194	194			4,545
1908 1909	9	239	269	269	301	199	109			425	278	346	526				259	163	174	186	220	245			4,203
1909-1910	10	226	205	211	499	282	136			464	242	288	487				297	227	283	352	175	162			4,536
1910 1911	11	236	243	230	409	168	113			321	201	134	596				256	221	197	211	194	270			4,000
1911-1912	12	226	211	230	237	225	103			424	141	384	500				237	349	154	234	239	289			4,183
1912-1913	13	231	211	294	390	199	116			414	214	282	468				276	253	166	224	230	366			4,334
1913-1914	14	241	199	326	397	145	98			330	169	256	558				327	280	251	192	213	226			4,208
1914-1915	15	370	186	249	415	142	106	10,115	10,110	325	237	307	410	11,568	12,108	15,735	193	317	141	192	277	271	22,677	15,484	4,132
1915-1916	16	245	297	144	397	145	121			407	230	390	589				181	355	198	243	258	252			4,452
1916-1917	17	284	186	288	544	173	104			375	251	288	499				276	311	166	288	203	327			4,563
1917-1918	18	175	218	307	333	396	113			239	277	454	314				201	151	198	333	220	302			4,231
1918-1919	19	279	243	217	313	428	114			452	180	403	391				339	288	246	356	257	258			4,764
1919-1920	20	236	173	422	205	397	116			265	219	256	385				281	516	237	239	308	289			4,544
1920-1911	21	175	154	313	256	365	124			492	149	256	596				256	285	122	250	221	315			4,329
1921-1922	22	259	180	403	281	226	115			267	266	333	532				149	343	219	307	231	207			4,318
1922-1923	23	219	230	180	358	168	119			218	180	301	718				282	259	178	390	263	359			4,422
1923-1924	24	219	250	243	288	174	131			331	162	550	417				233	336	122	378	194	237			4,265
1924-1925	25	197	263	435	493	218	114			272	213	326	729				329	298	184	224	239	264			4,798
1925-1926	26	203	230	262	320	333	107			347	308	365	665				218	253	191	173	239	296			4,510
1926-1927	27	326	205	211	281	160	121			323	253	282	819				244	272	153	256	245	181			4,332
1927-1928	28	339	199	557	525	154	121			250	207	269	673				307	279	163	326	207	264			4,840
1928-1929	29	175	192	313	416	211	127			170	207	429	423				237	663	223	302	230	292			4,610
1929-1930	30	373	295	307	473	193	123			289	210	294	410				371	323	210	269	258	245			4,652
Total ...		7,439	6,806	8,827	11,071	7,622	3,525	10,115	10,110	9,785	6,474	10,291	15,365	11,568	12,108	15,735	7,957	8,968	5,656	7,954	7,011	7,735	22,677	15,484	230,283

The Raichur felling series of the Dhooma Working Circle will be divided into compartments on receipt of 4" scale maps from the Forest Survey of India.

The following table indicates how the bamboo circles are to be exploited :—

Years.	Number of block.	Area in acres.
1900, 1901, 1903, 1904, &c....	A ...	3,678
1901, 1902, 1904, 1905, &c....	B ...	7,011
1902, 1903, 1905, 1906, &c....	C ...	7,735
	Total ...	18,424

SUPPLEMENTARY REGULATIONS.

Cleanings, thinnings or other improvement fellings.

49. At present the necessity for no such operations is required.

50. Climbers are not numerous, but wherever found would be removed by the Forest Staff in the open compartments of the year.

Grazing.

51. It is proposed that Circles Nos. I, IV and VII shall be gradually closed to grazing as worked over, and protected from cattle for a period of 10 years, which will eventually result in one-third of each circle being closed and two-thirds of the same being always open to grazing. Under this arrangement the following minimum areas will always be opened to grazing :—

	Area.
Two-thirds of Circles Nos. I, IV and VII	96,036 acres.
Whole of the Grazing Circles Nos. II, V and VIII ...	44,900 „
Whole of the Unworkable Circles Nos. III, VI and IX	41,329 „
Total ..	182,265

Distributing this area over 101,390 head of cattle (*vide* Appendix E) grazing annually gives 1·8 acres per head. In addition to the above there are 21,158 acres of B-I class forests as shown in para. 18 *supra* and 252,416 acres of malguzari and ryotwari forests as detailed in Appendix E.

The demand for grazing is entirely for local cattle, the nomadic classes very rarely visit these forests. The grazing of sheep and goats is prohibited.

Sowings, plantings or other works special to each circle.

52. It is not proposed to resort to any sowings, &c., during the first rotation.

Roads.

53. Roads will have to be constructed from the coupes to the Nerbada to facilitate the removal of produce to be floated down the river to Jubbulpore. No permanent roads are required as the people are not accustomed to use carts. The paths will have to be repaired in several cases.

Buildings.

54. A better class of buildings is absolutely necessary for the Rangers, Sub-Rangers and Guards. It is therefore proposed to build one Ranger's, eight Sub-Rangers' and 30 Guards' quarters at a cost of Rs. 300, 150 and 50 each respectively during the first 10 years of the rotation.

Fire-protection.

55. Each compartment in the felling series as soon as it is worked over to be brought under systematic protection. Partial protection to be gradually extended during the first 10 years over the rest of the working circles and the unworkable circle, as grass will be grazed over and protection would be an easy task.

Boundaries.

56. Boundaries will be kept cleared and posts repaired annually where necessary.

Wells and tanks.

57. The kutcha well at Banjari will be made pacca and existing wells and tanks repaired.

MISCELLANEOUS.

Miscellaneous prescriptions.

58. Forms 2 and 3 should be kept up for each working circle separately.

Financial result of proposed working.

59. The principles advocated by the Inspector-General of Forests in his Circular No. 12-Working-plan of 29th December 1894 are to be followed in the case of departure from the prescribed plan under—

(*a*) works of sylvicultural improvements;

(*b*) works connected with the lines of communication and export, and

(*c*) buildings, demarcations and minor works of improvement.

These principles are that in the case of works under (*a*) or (*b*) the Conservator should have power to sanction deviations, giving his reasons in Form No. 3. In the case of works under (*c*) that the general plan might be prescribed for a term of years, but the manner in which the details are carried out should be controlled solely by the Conservator.

Changes proposed in the Forest staff.

60. The staff proposed for the Ranges is as under :—

					Rs.
3	Forest Rangers	at Rs. 50 each	...	...	1,800
3	Foresters	at „ 15 „	...	...	540
5	Forest Guards	at „ 12 „	...	...	720
3	Do. do.	at „ 10 „	...	...	360
3	Do. do.	at „ 8 „	...	...	288
7	Do. do.	at „ 7 „	...	...	588
10	Do. do.	at „ 6 „	...	...	720
7	Do. do.	at „ 5 „	...	...	420
3	Range Muharirs	at „ 8 „	...	...	288
4	Paid Vendors	at „ 7 „	...	...	376
			Total	...	6,100

Forest villages.

61. The forest villages of Banjari and Banda will be maintained. The first lies partly in the Nagandeori felling series of the Dhooma Working Circle and partly in the Dhooma felling series of the Nerbada Working Circle. The last is in the Dhooma Unworkable Circle.

62. The receipts are estimated as follows :—

Particulars.	Quantity.	Per.	Rate.	Amount.
	Cft.	Cft.	Rs. a. p.	Rs. a. p.
By sale of teak poles ...	10,000	.....	0 5 0	3,125 0 0
„ miscellaneous poles ...	1,000	.....	0 2 0	125 0 0
„ firewood ...	2,750 cart-loads.	Cart load.	0 2 3	386 11 6
„ bamboos ...	30,000 cart-loads.	Cart load 100.	1 0 0	300 0 0
„ grass ...	11,408 cart-loads.	Cart load.	0 1 3	110 0 0
„ minor forest produce ...	.....	.....	.....	453 13 6
„ anticipated grazing dues ...	14,128 buffaloes.	Head.	0 5 0	4,415 0 0
„ anticipated grazing dues ...	87,262 cows and bullocks.	Head.	0 2 0	10,907 12 0
„ commutation ...	.....	.....	.....	4,543 11 0
Total ...	.....	.....	.....	24,367 0 0

The expenditure is estimated as follows :—

Particulars.	Amount.
	Rs. a. p.
Commission to Patwaris and Revenue Inspectors, to Malguzars, &c. ...	2,081 0 0
Repairs to roads	200 0 0
" buildings	300 0 0
" wells and tanks	50 0 0
Clearing boundary lines	350 0 0
Fire-protection	4,500 0 0
Salary of establishment	6,100 0 0
Travelling allowances	600 0 0
Other contingent expenditure	186 0 0
Total ...	14,367 0 0

From the above estimate it will be seen that a surplus of Rs. 10,000 is expected annually.

APPENDICES.

Two sets of maps accompany the report, scale one inch equals one mile.

A.—Three maps showing the distribution and allotment of working circles, felling series, and compartments as also the bamboo blocks. One map of each range.

B.—Three stock maps. One map of each range.

C.—A description of the crop in each working circle and felling series.

D.—Description and maintenance of the forest villages in the ranges.

E.—A list of malguzari waste areas adjoining the ranges with the number of cattle in the malguzari villages.

F.—A list of trees and shrubs which have been noted as occurring in these forests.

N. B.—B-I class forests have not been shown on the maps.

GANGAPRASAD KHATRI,

Extra-Assistant Conservator of Forests,

Forest Divisional Officer, Seoni Division.

Appendix C.

Brief Description of the crop in each Working Circle and Felling Series.

I.—Chappara Working Circle.

The growth in all the felling series of this circle consists of Tectona grandis, Terminalia tomentosa, Baswellia thurifera, Anogeisus latifolia, Zizyphus, Xylopyra, Ougeinia, Dalbejioides, Bassia latifolia, Odina wodier, Butea frondosa, Diospyros melonoxylon, Lagerstrœmia parviflora, etc. Better class of poles are found in felling series Nos. 2, 3, and 4 which also contain in places blanks alternating with patches of Baswellia thurifera. The forests are as a rule open towards the centre and irregular in growth. Grass lands are fairly abundant. Reproduction is on the whole poor.

II.—Chappara Grazing Circle.

The growth in this circle consists mostly of the species mentioned above with the exception of teak. The forests are open and contain scrubly growth in most places. Reproduction is scanty.

III.—Chappara Unworkable Circle.

The growth in this circle consists of the species mentioned in the Chappara Working Circle, but in a very poor state, especially in Meghdon and Sahajpuri blocks.

IV.—Dhooma Working Circle.

The growth in all the felling series of this circle consists of the same species as mentioned in the Chappara Working Circle, but it is less open. The proportion of teak is greater in felling series No. 4 than in others. Baswellia thurifera is abundant in felling series No. 3. Reproduction is scanty.

V.—Dhooma Grazing Circle.

The growth in this circle resembles that in the Chappara grazing circle with the difference that a few teak trees are found in the Sunai Dongri, Londa and Bichwa blocks. The growth is denser in the valleys than on the hills. Grass lands are abundant. Natural reproduction is scanty.

VI.—Dhooma Unworkable Circle.

The growth in this circle consists of the species as mentioned in Circle No. I and resembles that of Circle No. III. The forests are somewhat dense and contain better class of teak poles. Small bamboos are found to a small extent in the Sherkumar block. Reproduction is fair.

VII.—Nerbada Working Circle.

The growth in felling series Nos. 1 and 2 resembles the growth in felling series No. 4 of the Dhooma Working Circle. The growth in the other felling series is somewhat better and consists of Pterocarpus marsupium, Albizzia procera, Lebidicropois oebicularins in addition to the species mentioned in the Chappara Working Circle, grass is abundant. Good bamboos are found in felling series Nos. 4 (the eastern half) 5 and 6. The forests are dense. Reproduction is fairly good.

VIII.—Nerbada Grazing Circle.

The growth in this circle is similar to that in Circle No. II, Chappara grazing circle, with the difference that a few teak trees are found in Katori, Diwara, Rajola and Kathi blocks. Kathi forests are very open, but very good grass is found in it. Reproduction is scanty.

IX.—Nerbada Unworkable Circle.

The forests of this circle contain a good proportion of teak. Reproduction is not so good.

GANGAPRASAD KHATRI,
Forest Divisional Officer,
Seoni Division.

Appendix D.

Description and Maintenance of Forest Villages.

Banjari and Banda are the forest villages in these Ranges. The former has been transferred to the Forest Department by Chief Commissioner's Resolution No. 2882, dated the 28th June 1895. These villages should be settled in accordance with Revenue Book Circular No. VII— 2. Efforts should be made to make Banda more popular and stand on a footing under the above Circular.

Serial Number.	Name of Village.	Area of village lands in acres.	Name of Patel.	Number of men, women and children.	Amount of royalty realized.	Area of land cultivated in acres.
					Rs. a. p.	
1	Banjari ...	417	Nanhu Guzur ...	54	19 4 0	77
2	Banda ...	100	Doulat Gond ...	8	2 0 0	8

GANGAPRASAD KHATRI,

Forest Divisional Officer,

Seoni Division.

Appendix E.

A List of Malguzari Waste Areas adjoining the Government Forests of the Northern Ranges with the number of Cattle in the Malguzari Villages.

All these cattle graze in Government Forests.

Number.	Name of Village.	Area of Malguzari forest.	Number of Cattle.		Remarks.
			Buffaloes.	Cows and bullocks.	
	Chappara Range.	Acres.			
1	Paili	112·56	11	62	
2	Manbori	562·52	17	100	
3	Ranveli	138·49	...	115	
4	Chhidguar	664 86	20	288	
5	Naktia	381·15	25	276	
6	Chandori Khurd	311·73	...	...	
7	Do. Kalan	654·96	...	...	
8	Saugor	525·82	37	336	
9	Potalpani	508 67	...	...	
10	Jatlapur	617·49	11	89	
11	Oria	303·94	19	98	
12	Darwai	375·65	72	438	
13	Utekata	534·44	...	120	
14	Ghoghri	20·58	22	197	
15	Nuvari	86·13	24	333	
16	Saliwara	512·50	25	200	
17	Lakwah	1,404·17	39	333	
18	Berthana	785·86	13	166	
19	Dharia	534·42	23	208	
20	Keolari	211·10	14	156	
21	Jamunpani	233 48	...	49	
22	Ramgarh	1,912·65	17	158	
23	Jaronda	128 33	6	141	
24	Samnapur	179·81	15	118	
25	Piparia	401·39	2	91	
26	Lamta	333·09	...	5	
27	Bakoda	378·21	8	64	
28	Mothar	761·86	...	...	
29	Bambanwada	382·00	35	235	
30	Chargaon	318·99	5	80	
31	Bakhari	289·67	...	16	
32	Khairi	534·43	6	143	
33	Bhatamtara	453·26	10	86	
34	Danimeta	463·87	...	131	
35	Nandora	256·47	1	12	
36	Barsala	155·90	1	28	
37	Bakoda	378·21	4	40	

Appendix E.—(*Contd.*)

Number.	Name of Village.	Area of Malguzari forest.	Number of Cattle.		Remarks.
			Buffaloes.	Cows and bullocks.	
	Chappara Range.—(*Contd.*)	Acres.			
38	Seoni	599·24	15	98	
39	Kodra	374·05	...	24	
40	Jamunia	171·29	2	32	
41	Tulaf	1,182·45	6	60	
42	Khairnara	361·65	5	76	
43	Deotaman	169·29	13	65	
44	Bijadeori	809·02	28	255	
45	Wadi	1,769·50	7	217	
46	Piparthana	1,763·78	14	101	
47	Dighori	286·76	13	106	
48	Bhorgarhi	264·74	...	36	
49	Sagar	1,359·26	12	316	
50	Khatkar	681·29	28	275	
51	Adhiari	216·	9	87	
52	Pidrai	382·44	...	29	
53	Bhadtendni	254·51	...	19	
54	Lurgi	321·44	12	153	
55	Paili Kalan	614·42	2	129	
56	Do. Khurd	778·39	41	404	
57	Bamhanwada	155·00	2	84	
58	Pandiwada	348·84	14	162	
59	Junapani	1,038·01	...	30	
60	Khairi	215·12	16	163	
61	Chappara Khurd	70·00	26	195	
62	Do. Kalan	22·32	19	187	
63	Bichhua	198·44	11	132	
64	Piparia	401·03	2	74	
65	Umaria	355·87	...	...	
66	Gorakhpur	816·07	10	116	
67	Jhilmili	486·80	11	114	
68	Sadak Seoni	578·93	60	323	
69	Deori Kalan	344·37	32	223	
70	Dugaria	484·08	26	246	
71	Tinsa	228·32	40	236	
72	Chandeni	399·70	20	101	
73	Jogiwada	628·67	22	296	
74	Salehgurh	312·79	...	36	
75	Sukha	183·33	14	67	
76	Mundrai	299·00	19	136	

Appendix E.—(*Contd.*)

Number.	Name of Village.	Area of Malguzari forest.	Number of Cattle.		Remarks.
			Buffaloes.	Cows and bullocks.	
	Chappara Range.—(*Contd.*)	Acres.			
77	Matama	200·25	10	185	
78	Murjhor	239·71	1	60	
79	Deogaon	340·96	19	187	
80	Kuhna	319·42	23	143	
81	Raichor	321·58	10	106	
82	Khairi	86·64	1	63	
83	Paili	1,210·38	3	108	
84	Jogigufa	363·72	13	107	
85	Baduor	196·98	2	173	
86	Dugaria	324·09	2	63	
87	Saliwada	201·92	18	164	
88	Daganghondi	259·11	...	37	
89	Jamanpani	570·76	14	141	
90	Bharda	381·50	21	144	
91	Chilachond	284·45	5	67	
92	Mohgaon	5·32	3	98	
93	Samnapur	79·65	...	...	
94	Pahadi	310·81	...	...	
95	Bamhodi	480·45	66	126	
96	Pithara	153·97	13	93	
97	Mekhdon	141·02	10	59	
98	Madhai	725·60	14	49	
99	Karanpur	984·81	...	...	
100	Gangai	350·16	11	293	
101	Bharga	280·65	6	92	
102	Palka	294·28	18	55	
103	Chulgaon	603·54	33	229	
104	Kodra	511·24	...	4	
105	Dala	105·83	...	...	
106	Jagiwadi	584·63	5	86	
107	Sihora	399·20	4	25	
108	Lalpur	156·13	6	101	
109	Dhoria	1,147·63	16	119	
110	Sahajpuri	304·24	49	258	
111	Ganesh Ganj	240·75	28	220	
112	Gugwara	229·21	7	180	
113	Bijna	528·01	24	234	
114	Sighodi	365·06	8	89	
115	Deori	168·62	33	269	

Appendix E.—(*Contd.*)

Number.	Name of Village.	Area of Malguzari forest.	Number of Cattle.		Remarks.
			Buffaloes.	Cows and bullocks.	
	Chappara Range.—(*Contd.*)	Acres.			
116	Darwai	1,731·15	25	125	
117	Kareli	379·99	23	167	
118	Chhindwaha	459·12	37	163	
119	Kekda	720·35	33	207	
120	Pondi	356·32	6	42	
121	Piparia	330·74	17	150	
122	Utekata	544·25	3	73	
123	Gudrai	241·47	17	56	
124	Tilbodi	532·49	18	115	
125	Jhiri	578·75	23	172	
126	Baksi	119·60	6	89	
127	Nawalgaon	625·85	13	113	
128	Khamaria	143·86	100	312	
129	Mohgaon	44·96	3	98	
130	Jamuna	183·01	...	...	
131	Marlu	363·75	60	287	
132	Palari	181·14	8	74	
133	Mohgaon	423·83	4	83	
134	Karapdol	121·05	24	155	
135	Ramnagri	284·53	15	108	
136	Kudari	697·74	19	60	
137	Khamaria	488·26	2	54	
138	Ghogri	164·17	6	38	
139	Singhodi Mochi Pathor	460·98	34	228	
140	Khakharja	427·12	42	225	
141	Piparia	297·66	31	177	
142	Chhata	60·95	6	55	
143	Dhadra	548·17	...	20	
144	Bijori	125·35	3	30	
145	Bichhua	483·97	...	2	
146	Atama	586·07	23	135	
147	Ghunsa	878·31	20	141	
148	Muwari	772·89	8	103	
149	Sidrai	422·81	10	237	
150	Gorakhpur	145·41	23	240	
151	Tilepani	428·15	37	254	
152	Chikhli	581·50	24	90	
153	Ghoghri	439·59	...	4	
154	Babia	337·65	26	181	

Appendix.—(*Contd.*)

Number.	Name of Village.	Area of Malguzari forest.	Number of Cattle.		Remarks.
			Buffaloes.	Cows and bullocks.	
	Chappara Range.—(*Contd.*)	Acres.			
155	Mahulpani	908·59	18	191	
156	Bhedki	1,333·07	13	137	
157	Mandwa	428·40	4	61	
158	Manogurh	427·44	...	...	
159	Kachnara	325·89	4	52	
160	Kamli	229·71	3	68	
161	Tendni	407·64	18	143	
162	Barpani	87·09	9	56	
163	Imlia	413·54	35	210	
164	Nandia Khurd	238·38	5	37	
165	Do. Kalan	351·94	36	504	
166	Chamari Kalan	446·33	21	172	
167	Do. Khurd	170·46	17	164	
168	Dangamani	432·58	31	232	
169	Lathgaon	233·52	22	185	
170	Bharga	461·35	11	125	
171	Dhoda	137·84	...	...	
172	Sarra	301·36	...	31	
173	Singhori	515·88	21	152	
174	Khairnara	915·35	3	72	
175	Imlipathar	636·46	13	98	
176	Patan	67·38	64	158	
177	Jamunpani	602·64	...	29	
178	Ghogro	516·15	1	41	
179	Deori	176·19	12	191	
180	Khursipar	599·50	9	209	
181	Malhhanwada	682·45	46	306	
182	Gadaghat	218·46	17	259	
183	Budhwani	80·20	...	36	
184	Nawalgaon	137·55	17	128	
185	Mohli	90·57	32	231	
186	Umaria	355·87	20	156	
187	Kadwi	262·29	1	109	
188	Gorakhpur	241·31	10	116	
189	Anjania	373·66	43	314	
190	Chandi	338·88	9	127	
191	Baheria	351·80	12	208	
192	Simaria	362·49	4	65	
193	Partabgarh	750·12	26	249	

Appendix E.—(*Contd.*)

Number.	Name of Village.	Area of Malguzari forest.	Number of Cattle.		Remarks.
			Buffaloes.	Cows and bullocks.	
	Chappara Range.—(*Contd.*)	Acres.			
194	Gudhua	456·89	11	134	
195	Ghunai	1,086·24	13	134	
196	Barbaspur	282·64	1	21	
197	Semartal	463·21	5	110	
198	Bamhanwada	131·24	49	351	
199	Selwa	146·34	16	188	
200	Lamta	675·65	3	32	
201	Manhari	145·91	21	174	
202	Harai	406·53	64	286	
203	Deori	232·89	8	102	
204	Bilkata	169·72	32	308	
205	Chargaon	220·89	5	107	
206	Bhimgarh	920·16	47	417	
207	Khapa	362·24	13	128	
208	Gangai	33·15	13	53	
209	Saliwada	86·91	4	215	
210	Boria	228·44	8	185	
211	Shahpura	117·30	4	193	
212	Akalma	526·15	...	122	
213	Gohna	599·50	25	216	
214	Manakwada	53·54	9	202	
215	Sagar	781·27	42	295	
216	Paili	147·03	12	221	
217	Kodia	66·32	...	112	
218	Sukri	551·22	13	194	
219	Masurbhaori	454·17	17	277	
220	Barsala	242·79	6	80	
221	Thaori	322·30	11	82	
222	Harduli	440·55	23	312	
223	Barbaspur	272·31	...	120	
224	Chandeni	829·33	8	122	
225	Suwadongri	378·20	24	167	
226	Bhukundi	269·65	4	152	
227	Deori	1,019·65	...	168	
228	Tilwada	180·70	11	126	
229	Bamhanwada	191·63	4	64	
230	Boria	578·40	21	255	
231	Nonia	156·45	25	286	
232	Sakri	53·85	15	338	

Appendix. E.—(*Contd.*)

Number.	Name of Village.	Area of Malguzari forest.	Number of Cattle.		Remarks.
			Buffaloes.	Cows and bullocks.	
	Chappara Range.—(*Contd.*)	Acres.			
233	Baruband	589·78	7	98	
234	Gorakhpur	732·86	10	211	
235	Balpura	573·73	22	245	
236	Gudarra	750·38	7	97	
237	Bandra	697·02	2	67	
238	Badpani	214·13	...	...	
239	Mundapar	396·95	11	69	
240	Baglai	153·65	15	119	
241	Batka	140·78	15	87	
242	Marahti	206·02	6	49	
243	Amai	382·15	...	...	
244	Pahadgarh	408·70	6	77	
245	Khamaria	456·95	37	384	
246	Sarangpur	527·08	18	86	
247	Gorakhpur	397·69	2	11	
248	Bhajia	519·21	15	88	
249	Ahargondi	386·04	...	...	
250	Gudhna	55·72	28	239	
251	Guwari	624·18	20	214	
252	Kutmeli	215·00	5	62	
253	Khursipar	182·50	3	63	
254	Jhalon	257·51	14	96	
255	Barela	310·03	15	147	
256	Padiwadu	298·82	6	69	
257	Umarpani	526·36	28	115	
258	Diwari	492·52	20	95	
259	Karondi	545·28	5	71	
260	Ghatpiparia	196·35	39	130	
261	Barela	1,083·41	11	83	
262	Bareli	431·88	3	73	
263	Jhilwani	327·49	4	74	
264	Suktara	218·93	...	8	
265	Jamunpani	216·56	22	77	
266	Saidalpar	54·13	24	98	
267	Ghoghri	314·01	...	31	
268	Kadwethaonri	56·26	...	40	
269	Silawada	202·07	8	123	
270	Tiparia	175·40	21	139	
271	Kuddo	151·73	9	109	

Appendix E.—(*Contd.*)

Number.	Name of Village.	Area of Malguzari forest.	Number of Cattle.		Remarks.
			Buffaloes.	Cows and bullocks.	
	Chappara Range.—(*Contd.*)	Acres.			
272	Palla	133·99	5	90	
273	Mungwani	112·39	16	147	
274	Sukwah	212·87	14	107	
275	Dhanora	186·61	3	235	
276	Amanala	237·52	18	142	
277	Amoli	397·58	39	122	
278	Khirkhiri	299·79	25	92	
279	Matanpur	124·81	7	102	
280	Tighra	56·95	20	79	
281	Raipura	51·43	27	159	
282	Sunwara	969·39	127	1,012	
283	Khairi	296·76	29	198	
284	Pandrai	425·05	31	163	
285	Dondawani	192·60	37	272	
286	Kanwakheda	150·06	11	114	
287	Mohgaon	644·57	6	96	
288	Khapa	737·10	38	177	
289	Ramkhedi	267·84	33	125	
290	Ghatori	328·19	4	68	
291	Bhalewada	288·67	41	103	
292	Bamhodi	270·71	26	151	
293	Masul	115·99	...	...	
294	Baglai	242·48	26	110	
295	Malhanwada	180·21	30	101	
296	Baragaur	212·31	55	228	
297	Gadarwada	392·45	13	97	
298	Khapa	47·86	16	170	
299	Pindrabodi	427·42	62	397	
300	Patan	14·84	26	89	
301	Mohgaon	234·50	4	106	
302	Tala	204·36	17	85	
303	Tali	352·78	15	191	
304	Kudari	546·25	38	277	
305	Chandankheda	158·37	3	54	
306	Raikheda	328·91	9	84	
307	Kohka	283·38	43	133	
308	Thaouri	180·60	17	80	
309	Saori	336·70	40	182	
310	Sunhara	225·49	84	437	
311	Sunjhiri	219·73	2	22	

Appendix E.—(*Contd.*)

Number.	Name of Village.	Area of Malguzari forest.	Number of Cattle.		Remarks.
			Buffaloes.	Cows and bullocks.	
	CHAPPARA RANGE.—(*Concld.*)	Acres.			
312	Bichua	273·97	...	88	
313	Charapatha	468·43	8	74	
314	Suktara	323·65	37	193	
315	Aharwada	181·55	26	282	
316	Sahajpuri	147·34	7	103	
317	Chargaon	129·31	13	92	
318	Ghargondi	144·26	...	22	
319	Bandeli	189·44	75	302	
	Total ...	96 884·00	5,338	45,064	
	DHOOMA RANGE.				
1	Bhoomka	200·64	27	162	
2	Patharkati	598·47	3	45	
3	Aurapani	520·42	24	55	
4	Khapa	382·04	10	162	
5	Dhana	828·25	36	105	
6	Surhai	345·94	4	76	
7	Bichua	211·93	13	75	
8	Puidrai	75·88	33	100	
9	Hamirgarh	477·55	3	185	
10	Smiaria	273·02	8	27	
11	Karachwai	383·49	2	54	
12	Bichhua Kalan	190·79	12	50	
13	Atari	114·56	4	38	
14	Adegaon	927·43	165	539	
15	Patlon	323·96	22	54	
16	Purwa	512·64	30	86	
17	Joba Khurd	1,737·53	...	62	
18	Piparia	1,609·16	...	15	
19	Pindrai	187·27	8	67	
20	Hinotia	422·68	12	99	
21	Kasai	389·66	11	145	
22	Sirmangni	77·93	122	361	
23	Niwari tola	1,306·42	...	...	
24	Mohgaon	414·11	24	206	
25	Sangai	12·99	7	92	
26	Andia	536·52	5	96	
27	Bhairothan	470·80	5	62	
28	Sirolipar	602·29	44	268	
29	Mathdeori	425·04	19	116	
30	Dhadra	70·15	19	85	

Appendix E.—(*Contd.*)

Number.	Name of Village.	Area of Malguzari forest.	Number of Cattle.		Remarks.
			Buffaloes.	Cows and bullocks.	
	Dhooma Range.—(*Contd.*)	Acres.			
31	Pahadi	310·81	9	55	
32	Khamaria	107·62	2	54	
33	Besarghat	321·34	5	69	
34	Jhamar	193·78	7	23	
35	Dhankakdi	184·53	63	388	
36	Dungaria	142·27	163	300	
37	Kapargarh	264·56	35	216	
38	Khadsi	430·60	16	140	
39	Pathadeori	939·29	50	266	
40	Lingpani	977·96	7	125	
41	Pandupura	267·98	8	94	
42	Sajpani	471·89	10	147	
43	Shikara	225·19	45	288	
44	Budhwani	127·08	2	38	
45	Joba Kalan	1,737·53	33	263	
46	Sanai dongri	299·82	51	269	
47	Mohgaon	219·32	4	39	
48	Gharwara	239·90	29	239	
49	Makarjhir	270·21	28	150	
50	Sukkam	157·79	...	6	
51	Bhurkundi	313·74	26	80	
52	Kishanpur	334·03	10	51	
53	Dhooma	129·62	209	644	
54	Barbati	362·12	30	66	
55	Khamhi	274·67	...	4	
56	Pati	305·28	16	76	
57	Partapur	590·89	14	88	
58	Dharpatha	133·64	14	73	
59	Khamba	517·32	16	77	
60	Mohgaon	342·89	12	39	
61	Chharara	298·64	14	84	
62	Jamkhar	295·33	...	24	
63	Dargada	356·92	1	50	
64	Bichhua	267·27	20	100	
65	Launda	291·50	22	50	
66	Kunda	195·37	6	32	
67	Jhalon	257·51	...	21	
68	Deori	130·56	...	103	
69	Raichor	407·62	27	89	
70	Dhubia	77·57	...	...	

Appendix E.—(*Contd.*)

Number.	Name of Village.	Area of Malguzari forest.	Number of Cattle.		Remarks.
			Buffaloes.	Cows and bullocks.	
	Dhooma Range.—(*Contd.*)	Acres.			
71	Silpani	685·45	13	114	
72	Bakhari	289·77	...	25	
73	Jhapni	595·28	7	59	
74	Mohgaon	126·41	23	96	
75	Belkhedi	288·07	1	101	
76	Silheta	144·00	16	83	
77	Salaiya	226·66	12	57	
78	Jugrai	222·88	20	63	
79	Thaonri	158·26	4	11	
80	Samnapur	181·43	18	106	
81	Bijaipani	162·05	36	112	
82	Manakpur	283·05	6	68	
83	Bandha	61·21	50	171	
84	Khapa	533·92	5	32	
85	Jamunia	623·30	21	160	
86	Nagandeori	354·62	70	204	
87	Dongargaon	751·55	15	147	
88	Pondi	374·34	73	212	
89	Gadarwada	62·22	24	110	
90	Ghoghri	360·35	40	244	
91	Budhwani	314·82	7	84	
92	Bheeni Kund	174·71	...	...	
93	Sanai Kachhar	254·82	42	303	
94	Gokla	681·67	16	65	
95	Dhapara	275·24	1	36	
96	Diakheda (Kalaj deori)	246·57	...	12	
97	Oakarpar	731·41	18	76	
98	Khubi	1,513·76	5	48	
99	Jamkona	598·34	...	...	
100	Saliwara	170·68	12	18	
101	Dabkia	173·51	8	59	
102	Rakhi	486·00	3	32	
103	Bhaneri	205·40	9	95	
104	Patrai	261·19	4	80	
105	Parasia	131·13	2	52	
106	Gaurabibi	860·38	...	12	
107	Bhandardoh	870·68	...	7	
108	Khut Khamaria	690·85	2	34	
109	Madhpura	380·00	...	...	
110	Satti Kachhar	506·00	...	15	

Appendix E.—(*Contd.*)

Number.	Name of Village.	Area of Malguzari forest.	Number of Cattle.		Remarks.
			Buffaloes.	Cows and bullocks.	
	Dhooma Range.—(*Concld.*)	Acres.			
111	Kosamghat	1,667·59	...	68	
112	Umarpani	384·08	...	...	
113	Amjhera	90·16	13	39	
114	Boria	103·39	...	27	
115	Nagtoria	535·61	2	34	
116	Kerpani	40·38	11	109	
117	Thaonri	152·40	43	248	
118	Nawalgaon	309·71	19	142	
119	Ponditola	420·71	75	220	
120	Khut Khamaria	714·42	30	233	
121	Dhonda	68·54	15	29	
122	Kohka	555·92	...	6	
123	Ghoghri	164·78	38	192	
124	Dobhi	95·24	1	19	
	Total ...	49,716·43	2,506	12,976	
	NERBADA RANGE.				
1	Binori	439·45	30	220	
2	Bandam	563·20	50	102	
3	Pahadi	1,434·10	110	508	
4	Bhurkal Khapa	304·52	6	109	
5	Dunda	696·81	3	74	
6	Nichli	955·34	4	128	
7	Keolari	468·85	80	154	
8	Manaksarra	154·25	31	116	
9	Kudopar	259·97	57	126	
10	Ghotkheda	103·58	40	210	
11	Sahajpuri	240·29	...	92	
12	Tikra Khapa	301·21	6	78	
13	Nidhani	276·24	7	47	
14	Jamunia	12·32	9	56	
15	Soru Khapa	455·19	4	28	
16	Sadepar	146·52	3	143	
17	Dongaria	152·05	11	85	
18	Siaman	135·78	12	114	
19	Mundapar	190·03	40	169	
20	Badgaon	41·49	20	80	
21	Mohogaon	382·53	12	107	
22	Chargaon	258·90	54	272	

Appendix E.—(*Contd.*)

Number.	Name of Village.	Area of Malguzari forest.	Number of Cattle.		Remarks.
			Buffaloes.	Cows and bullocks.	
	Nerbada Range.—(*Contd.*)	Acres.			
23	Manegaon	464·94	42	147	
24	Bareli Kalan	123·97	2	39	
25	Ghutua	167·91	34	72	
26	Mawal	476·17	30	160	
27	Gokulthana	632·18	140	230	
28	Karithun	455·37	61	186	
29	Kudothar	352·68	2	10	
30	Pondi	649·80	99	183	
31	Haritikur	917·01	2	55	
32	Gadadhur	874·63	5	45	
33	Tikra	713·71	49	147	
34	Dalkha	1,283·24	61	137	
35	Pandurtalai	491·27	41	84	
36	Roto	40·63	31	30	
37	Dharamkal	219·80	2	17	
38	Piparia	84·43	22	82	
39	Sitiatola	331·24	84	84	
40	Anakwada	574·97	5	41	
41	Karaiya	840·75	82	143	
42	Partabgarh	704·07	8	83	
43	Sarra	301·36	11	47	
44	Joba	182·00	33	82	
45	Chamarwah	321·60	39	8	
46	Hinai	400·62	...	63	
47	Kodari	110·02	30	132	
48	Burdia	311·81	8	60	
49	Bija Sen	152·21	34	170	
50	Sarangpur	421·08	24	138	
51	Madanpur	464·70	15	1	
52	Gadaghat	162·32	63	151	
53	Bagdari	322·18	9	73	
54	Basuria	132·54	4	105	
55	Saliwara	398·12	9	102	
56	Bansi	58·54	54	97	
57	Nawegaon	1006·44	16	106	
58	Gangai	414·13	21	96	
59	Khajri	350·18	14	139	
60	Paili	219·21	26	26	
61	Surajpura	219·04	21	65	

Appendix E.—(*Contd.*)

Number.	Name of Village.	Area of Malguzari forest.	Number of Cattle.		Remarks.
			Buffaloes.	Cows and bullocks.	
	Nerbada Range.—(*Contd.*)	Acres.			
62	Kulkuhi	249·57	...	29	
63	Dewari	492·52	48	330	
64	Panarjhir	100·86	2	6	
65	Ishwarpur	470·79	7	62	
66	Durjanpur	639·98	43	266	
67	Ataria	111·56	...	...	
68	Rupdaun	919·13	...	...	
69	Bichua	288·01	83	309	
70	Bajghondi	512·19	2	21	
71	Salepani	1443·80	26	116	
72	Paraspani	885·50	...	...	
73	Ghatia	43·76	...	...	
74	Khairi	64·43	...	26	
75	Samnapur	481·28	20	122	
76	Sarasdol	354·94	23	161	
77	Gunchri	775·93	8	131	
78	Dola	409·71	2	37	
79	Chatua	242·80	19	146	
80	Mohgaon	57·74	...	...	
81	Tilgaon	354·09	4	87	
82	Balpur	394·13	9	30	
83	Saliwara	245·76	20	91	
84	Kachhi Budhwara...	634·81	4	82	
85	Katia	379·66	1	50	
86	Iswarpur	127·61	18	105	
87	Sitapur	585·35	59	231	
88	Bhaliwara	241·97	...	90	
89	Dhanpura	490·64	...	84	
90	Badra	315·40	5	149	
91	Jani	406·36	10	171	
92	Amoda	363·50	1	49	
93	Khamaria	450·55	2	43	
94	Piparia	344·94	25	136	
95	Kondra	240·92	...	77	
96	Mathdeori	298·89	6	154	
97	Lutmara	116·35	31	148	
98	Tendpani	200·83	15	70	
99	Udaipur	417·63	4	53	
100	Agaria Kalan	349·59	34	243	

Appendix E.—(*Contd.*)

Number.	Name of Village.	Area of Malguzari forest.	Number of Cattle.		Remarks.
			Buffaloes.	Cows and bullocks.	
	Nerbada Range.—(*Contd.*)				
		Acres.			
101	Kudo Budhwara	342·41	...	...	
102	Gonglai	373·38	...	55	
103	Deori	153·38	...	96	
104	Saliwara	223·53	4	71	
105	Gopewani	107·00	2	8	
106	Pongar	169·99	6	86	
107	Malhanwada	108·62	21	110	
108	Khursipar	62·42	23	80	
109	Chhinda	85·83	19	158	
110	Kursipar	91·14	13	71	
111	Babaria	389·89	8	44	
112	Bichhua	188·85	...	...	
113	Baigarwani Kalan...	220·75	25	295	
114	Do. Khurd...	313·35	1	103	
115	Titri	204·42	21	98	
116	Ghansor	313·40	105	280	
117	Karepatha	375·17	11	87	
118	Bhata	34·22	...	...	
119	Ghoghra	1,168·26	...	...	
120	Ghoghri	326·10	8	89	
121	Hiranbhata	120·35	4	88	
122	Dhanora	699·12	...	...	
123	Ganeshi	418·64	...	...	
124	Gunguch	216·18	18	133	
125	Bhimkund	72·27	...	...	
126	Bhalpani	675·03	60	214	
127	Baigapiparia	293·62	128	611	
128	Patri	206·30	19	151	
129	Para	230.17	10	53	
130	Baroda	229.81	70	216	
131	Limtara	131·42	2	11	
132	Jaitpuri	108·44	14	73	
133	Hud	116·32	15	82	
134	Karakwada	224·24	15	116	
135	Keolari	200·66	45	105	
136	Dhadar Khairi	108·47	...	28	
137	Sukum	73·20	11	64	
138	Samnapur	281·00	...	26	
139	Kakartala	145·77	25	150	

Appendix E.—(*Contd.*)

Number.	Name of Village.	Area of Malguzari forest.	Number of Cattle.		Remarks.
			Buffaloes.	Cows and bullocks.	
	Nerbada Range.—(*Concld.*)				
		Acres.			
140	Boria Khurd	103·86	4	52	
141	Jharia	277·24	16	81	
142	Khamaria	113·71	101	308	
143	Simaria	49·10	54	195	
144	Khairi	394·42	...	...	
145	Ghughri	1,178·45	...	16	
146	Dungaria	350·68	...	...	
147	Pamnia	188·79	...	100	
148	Rana	206·57	42	178	
149	Charka	123·16	18	120	
150	Sehasua	172·38	12	82	
151	Punwara Khurd	236·47	16	118	
152	Malkheda	295·48	15	196	
153	Koolari	108·49	3	61	
154	Sukwar	226·89	3	34	
155	Hingwani	229·81	17	232	
156	Khamaria	54·42	4	155	
157	Munda Kalan	358·21	3	117	
158	Kahani	158·04	114	522	
159	Harrai	166·26	...	12	
160	Thaori	735·00	15	129	
161	Deori	354·03	14	91	
162	Darat Khurd	263·90	2	64	
163	Pindrai	188·89	10	84	
164	Lalpur	60·87	21	153	
165	Nidhani	354·84	7	39	
166	Garghatia	43·76	...	...	
167	Salanja	596·35	7	81	
168	Boria Kalan	253·33	8	86	
169	Karanpur	334·35	...	...	
170	Punwara Kalan	295·32	34	174	
171	Baghodi	424·48	5	79	
172	Ghoghri	181·11	...	...	
173	Gugni	349·63	43	116	
174	Baoli	576·94	21	66	
175	Chaoki	72·66	10	84	
176	Rahlon Khurd	823·69	11	41	
177	Do. Kalan	586·12	29	112	
178	Thhaonri	121·42	28	70	

Appendix E.—(*Contd.*)

Number.	Name of Village.	Area of Malguzari forest.	Number of Cattle.		Remarks.
			Buffaloes.	Cows and bullocks.	
	Nerbada Range.—(*Contd.*)				
		Acres.			
179	Hatna	344·96	43	76	
180	Jamanpani	516·03	56	84	
181	Tinsi	143·24	2	30	
182	Mandopani	253·07	48	262	
183	Chhapra	308·23	8	95	
184	Mathdeori	647·93	63	70	
185	Khamara	1,257·94	18	92	
186	Katti	504·23	...	12	
187	Tumripar	1,758·12	5	102	
188	Bhorgurhi	57·74	...	...	
189	Rathi	951·16	...	...	
190	Dori	425·00	25	120	
191	Sikara	225·19	25	124	
192	Pandaria	532·38	...	9	
193	Katori	901·85	55	144	
194	Babaria	506·80	...	10	
195	Jamhodi Kalon	287·99	9	107	
196	Do. Khurd	116·48	5	34	
197	Dewara	364·95	10	46	
198	Mehartala	291·78	16	23	
199	Rajola	912·78	...	39	
200	Simaria	445·73	13	74	
201	Khudargaon	348·68	6	31	
202	Dobhi	376·20	5	35	
203	Barela	207·27	65	325	
204	Chari	509·15	11	69	
205	Rajgurhi	958·00	8	68	
206	Bhatikhari	537·45	9	64	
207	Umarpani	486·36	1	38	
208	Memda Khurd	530·96	6	80	
209	Bineki Kalan	731·01	35	160	
210	Do. Khurd	228·60	81	322	
211	Kurmithel	222·70	...	8	
212	Khairi Kalan	446·04	26	206	
213	Bambodi	513·00	17	59	
214	Darot Kalan	291·50	18	142	
215	Batwani	433·80	...	21	
216	Mebta	366·52	24	181	
217	Tinsara	94·81	2	24	

Appendix E.—(*Contd.*)

Number.	Name of Village.	Area of Malguzari forest.	Number of Cattle.		Remarks.
			Buffaloes.	Cows and bullocks.	
	Nerbada Range.—(*Contd.*)				
		Acres.			
218	Sarora	175·82	25	171	
219	Gad Jamunia	2,064·62	...	...	
220	Palatwara	290·41	11	87	
221	Bhalewada	297·74	25	174	
222	Painipur	244·47	2	86	
223	Memdapar	127·27	9	179	
224	Tikaria	437·14	15	92	
225	Jhurki Kalan	536·51	36	220	
226	Jhugrai	369·19	15	90	
227	Sailwara	758·75	17	34	
228	Chapal	489·50	3	57	
229	Khursipar	52·95	16	108	
230	Dhanwahi	599·67	37	194	
231	Paddi Kona	257·26	8	72	
232	Dampuri	617·01	39	37	
233	Gangpur	190·69	16	43	
234	Silna	142·49	38	106	
235	Dongaria	378·21	3	74	
236	Singanpuri	423·01	2	21	
237	Dukar Kuhi	518·87	20	44	
238	Budhera	386·13	27	93	
239	Kichli	283·17	15	113	
240	Bhoomka	556·98	6	20	
241	Singanpuri	201·77	...	...	
242	Khudri	642·13	...	...	
243	Keolari	104·34	...	...	
244	Patan	181·09	141	224	
245	Dabajhar	1,125·79	1	52	
246	Jhurki Khurd	206·33	...	...	
247	Deori	570·40	...	...	
248	Saliwara	228·36	100	206	
249	Machharia	171·74	55	128	
250	Katia	335·70	49	75	
251	Busa	650·13	46	105	
252	Rajarwada	94·02	32	96	
253	Panwas	120·17	18	60	
254	Palbera	174·47	21	76	
255	Mohgaon	451·63	14	105	
256	Masurbhaori	70·85	...	34	

Appendix E.—(*Concld.*)

Number.	Name of Village.	Area of Malguzari forest.	Number of Cattle.		Remarks.
			Buffaloes.	Cows and bullocks.	
	Nerbada Range.—(*Concld.*)				
		Acres.			
257	Khanidehi	188·67	56	154	
258	Bhelai	214·90	27	239	
259	Kakartala	76·28	19	22	
260	Hiranbhata	302·94	17	43	
261	Tendua	176·56	14	247	
262	Piparia	240·93	22	72	
263	Ambako	128·63	19	47	
264	Sukhenu	147·55	8	69	
265	Putrai	574·02	73	284	
266	Chaorai	460·66	6	148	
267	Budhua	169·77	...	96	
268	Kindrai	989·97	72	296	
269	Chinga	340·80	22	181	
270	Bareli Khurd	271·91	23	101	
271	Rajgarh	147·31	...	...	
272	Chergaon	905·41	17	135	
273	Umardeh	278·41	...	16	
274	Jamanpani	241·62	78	114	
275	Kedarpur	412·85	28	234	
276	Tulhera	302·40	...	6	
277	Kakra	138·27	40	110	
278	Kukri	292·84	18	79	
279	Sudamapur	161·09	3	81	
280	Kusmi	549·30	106	226	
281	Gota	132·41	...	16	
282	Singarpur	328·45	50	61	
283	Bamhni	654·50	15	65	
284	Bakhari	138·00	40	61	
285	Dhuma	325·26	47	198	
286	Chhindwah	320·33	51	110	
287	Beohari	190·32	25	239	
288	Andia	423·20	60	243	
289	Bijora	125·35	8	18	
	Total ...	105,815·47	6,284	29,222	
	Grand Total ...	242,415·90	14,128	87,262	

GANGAPARSAD KHATRI,

Forest Divisional Officer,

Seoni Division.

Appendix F.

A List of Trees and Shrubs which have been noted, occurring in the Forests of the Northern Ranges.

Natural order.	Botanical name.	Local name.	Remarks.
Anonaceœ ...	Milinsa velutina. Hook. ...	Kari ...	A small tree; leaves aromatic.
	Anona squamosa. Linn. ...	Sittafal sharifa ...	A small tree with a short trunk.
Capparidœ ...	Capparis horrida. Do. ...	Waghati katerin...	A climbing shrub.
	Cratœva religiosa. Forst. ..	Karanji pipal ...	A moderate-sized tree with trifoliate leaves.
Bixineœ ...	Cochlospermum gossypium ...	Gubdi gongal ...	A small tree, leafless in the cold weather; flowers handsome.
	Flacourtia Ramoutchi ..	Kakai ...	A small tree; thorny diecious tree; fruit edible.
Tamarixineœ ...	Tamarix dioca. Roxb. ..	Jhao ...	A gregarious shrub found in river beds.
Malvasceœ ...	Kydia calycina. Do. ...	Bhoti baranga ...	A small tree with soft wood.
Sterculiaceœ ...	Bombax malabaricum. Do. ...	Semar saori ...	A large tree; branches in wheels; cotton used.
	Sterculia urens. Do. ...	Garlu karu ...	A tree; leaves on long petioles. Five lobed.
	Do. villosa. Do. ...	Buti udal ...	A tree; leafless in cold weather. Five to seven to bed.
	Helecteres isora. Linn ...	Maracphal atai ...	A shrub; fruit composed of spirally-trusted carpets.
	Eriolœna hookeriana ...	Bothee ...	A small tree with grey bark.
Tiliaceœ ...	Grewia teliœfolia. Vahl. ...	Dhamin kesla ...	A moderate-sized tree; wood used for agricultural implements.
	Grewia elastica. Heyne ...	Dhamin ...	A small tree with a dark coloured bark.
Rutaceœ ...	Feronia elephantum. Correa ...	Kawit ...	A large tree with dark grey bark; fruits eaten.
	Aegle marmelos. Do. ...	Bet mahka ...	A small tree; fruit used medicinally.
Simarubeœ ...	Balanites roxbeerghii. Plauch ...	Hingan ...	A small tree with grey bark.
	Ailanthus excelsa. Roxb. ...	Maharukh mahanim.	A tree; the leaves have an unpleasant odour when crushed.
Binseraceœ ...	Boswellia thurifera. Colebr ...	Salai ...	A tree yielding fragrant gum resin.
	Garuga pinnata. Roxb. ...	Kakar ...	A large tree; leafless during the cold weather.
Meliaceœ ...	Melia indica. Brandis ...	Nim ...	A small tree; flowers white.
	Soymida febrifuga. Hook. ...	Rohan robaini ...	A large tree; wood used for building posts.
	Chloroxylon swietenia ...	Bhera bhirya ...	A moderate-sized tree; wood largely used.
Olaceneœ ...	Olax scandens. Roxb. ...	Harduli ...	A large rambling shrub; sometimes a climber.
Celastrineœ ...	Celastrus paniculata. Wild ...	Malkangni ...	A scandent shrub with yellow corky bark.
	Do. senegalensis. Lam ...	Bharati ...	A tall spinescent shrub.
	Elœodendron roxburghii ...	Aran ...	A tree; the root is said to be a specific for snake-bite.
Rhamnaœ ...	Zizyphus jujuba. Lam ...	Ber bor ...	A moderate-sized tree; fruit ovoid and eaten.
	Do. mnumlaria ...	Jhirberi raubor ...	A common dwarf straggling bush.
	Do. ænoplea. Mill ...	Erun ...	A straggling shrub; leaves small distichous.
	Do. xylopyra. Wild ...	Ghoti ghotar ...	A large straggling shrub; fruits not edible.
	Ventilago maderaspatana. Gaertu ...	Lokbandi ...	A large climbing shrub; the root is used as a dye.

Appendix F.——(*Contd.*)

A List of Trees and Shrubs which have been noted, occurring in the Forests of the Northern Ranges.—(Contd.)

Natural order.	Botanical name.	Local name.	Remarks.
Sapindaceœ ...	Schleichera trijuga. Wild ...	Kosam ...	A large tree; leaves spinuata cariaccous when old.
Anarcardiaceœ ...	Mangifera indica. Liun ...	A m b, a m b a, markie.	A large ever-green tree; not really wild.
	Buchanania latifolia. Roxb ...	Achar, Char ...	A tree; leafless only for a short time.
	Odina wodier Roxb. ...	Mowai, saka, ghodi.	A large tree; leafless for some months.
	Semecarpus anacalium ...	Bhilawa, b i b a kubka.	The marking-nut tree.
Moringeœ ...	Moringa plery gosperma Gærtu. Liun ...	Sohajna, Munga ...	A large tree with yellowish corky bark.
Leguminoseœ ...	Indegofera montana ...	Niljangli ...	A small under-shrub to be seen on grassy plains.
	Erythrina indica. Liun ...	Panjra, harna ...	A small tree wirh thorns on stem.
	Millenttia auriculata. Baller ...	Nasbel ...	A large and destructive climber.
	Ougeinia dalbargisdes. Benlt ...	Tinnas, tivus ...	A small tree with a trifoliate leaf.
	Abrus precatorins ...	Gung ...	A small climber; seeds red; with a black eye.
	Butea frondosa. Roxb ...	Palas ...	A moderate-sized tree; the root is used for rope-making.
	Do. superba. Do. ...	Bel, Palas ...	A scarlet flowered climber with trifoliate leaves.
	Dalbergia sissoo. Roxb ...	Shisham ...	A large tree; the wood seasons well.
	Do. latifolia. Do ...	Kalarukh ...	A deciduous tree; wood valuable as furniture.
	Do. paniculata. Do. ...	Dhobin, sheodar ...	A deciduous tree with yellow bark.
	Pterocarpus marsupium. Roxb ...	Bija, bula, bijo ...	A large tree; wood durable and seasons well.
	Cassia fistula ...	Amaltas, bahawa.	A moderate-sized tree with yellow flowers.
	Bauhinia purpurea ...	Sonakinlar, bhosa, dundra.	A small tree with tomentosa leaves.
	Do. acuminata ...	Kuchnar ...	A small tree with tomentosa leaves.
	Do. vahlii Wand A ...	Mohul, pondur ...	A climber.
	Do. malabarica. Roxb ...	Amta, khutna ...	A small tree with acid tomentosa leaves.
	Do. racemosa. Liun ...	Ashta, sihara ...	A small tree; leaves not acid.
	Tamarindus indica. Do. ...	Imli chinct, dumdera.	A large ever-green tree cultivated for its fruit.
	Xylia dolabre formis. Beut ...	Suriya ...	A large ever-green tree; wood very hard and double.
	Acacia arabica. Wild ...	Babul ...	A moderate-sized tree with dark brown bark.
	Do. lencopbloca. Wild ...	Hewar ...	A fairly large tree; wood double and takes a polish.
	Do. catechu. D o. ...	Khair ...	A deciduous thorny tree; grows quickly when young.
	Do. Intsia. Do. ...	Chillate ...	A large climbing shrub.
	Albizzia labbek. Beut ...	Sirus, chichola ...	A large tree; the wood is fairly double.
	Do. odoratissima. Do. ..	Chichwa ...	A large tree; bark dark grey.
	Do. procera. Do. ...	Sirus, kinhi ...	A large tree, greenish white.
	Do. thomsom. Thom ...	Sillari ...	A large tree with short trunk and spreading branches.

Appendix F.—(*Contd.*)

A List of Trees and Shrubs which have been noted, occurring in the Forests of the Northern Ranges.—(Contd.)

Natural order.	Botanical name.	Local name.	Remarks.
Rubiaceœ ...	Ixora parviflora. Vahl	Lokhandi ...	An ever-green shrub ; branches used as torches.
Sapotaceœ ...	Bassia latifolia. Roxb	Mohwa ...	A large tree ; leaves conaceous and in clusters.
	Mimusops indica. D. C. ...	Khirni ...	A large ever-green tree ; fruit eaten.
Ebenaceœ ...	Diospyros melonoxylon. Roxb ...	Tendu, timbruni ...	A large tree ; fruit edible.
	Do. monlana. Do. ...	Eikh, temri, tendu ...	A small tree with smooth bark.
Oleaceœ ...	Schrebera swieteimoides. Roxb ...	Mokha ...	A large tree with bark ; wood durable.
	Nyctanthes arbor tristis. Liun ...	Harsingur k harasli.	A large shrub with rough leaves and fragrant flowers.
Apoeyneœ ...	Holarrhena antidysente. Rica ...	Indrajan ...	A small tree ; bark and leaves used medicinally.
	Wrightia tomentosa. Rom ...	Kala, inderjan ...	A small tree, ; the root being used for snake bites.
	Do. tinctoria. R. B.... ...	Kala, kura ...	A small tree ; leaves used for dyeing.
Logainaceœ ...	Strychnos potatorum. Liun ...	Nirmali, kani and Tondrs.	A small ever-green tree; the root is used to clear muddy water.
	Cordia myxa. Liun	Gondni ...	A small tree ; the bark used for making ropes.
	Do. macleodii. Hook ...	Lessora, bhokra, rusalla.	A small tree ; with thick grey bark.
	Ehretia lœvis. Roxb	Datranga ...	A small tree ; with grey bark, leaves eaten.
Bignoniaceœ ...	Dolichandrone falcata	Mersing ..	A small tree ; flowers white ; leaves small.
	Heterophragrma roxburghii. Seem D. C. ...	Palung ..	Flowers rose coloured.
	Stereospermum suvaveolens. D. C. ...	Bara padar ...	A large tree ; wood fairly durable.
	Do. chelonoides. D. C. ...	Chhota padar ...	A large tree ; roots and flowers used medicinally.
Verbeniaceœ ...	Tectona grandis. Liun... ...	Sagun, saijee, teka kursi.	A large timber tree.
	Gmelina arborea. Roxb ...	Khamer, sewan ...	A large timber tree ; wood durable under water.
	Vitex negundo. Liun	Nargundi ...	A shrub ; the root is employed as a febrifuga.
Loranthaceœ ...	Loranthus longiflorus. Desr. ...	Banda ...	A parasitical shrub with handsome red flowers.
Urticaceœ ...	Ficus begalensis. Liun	Bargad war ...	A large ever-green tree.
	Do. religiosa. Do.	Pipal, Ali ...	A large tree sacred to the Hindus.
	Do. glomerata. Roxb	Gular, umar ...	A large tree ; the fruit is eaten.
	Ulmns integrifolia. Roxb ...	Popri ...	A large deciduous tree.
Euphorbiaceœ ...	Phyllanthus emblica. Liun ...	Aonla, nali ...	A moderate-sized tree ; the fruit is eaten.
	Briedelia retusa. Sprengel ...	Kasaigi, katsani ...	A large tree with thorns on the bud of the stems.
	Lebedieropsis orbicularis. Mull ...	Gurari, garra ...	A small tree used for building poles.
Combretaceœ ...	Terminalia bellerica. Roxb. ...	Bahera, bahara, tahka.	A large tree ; wood used for agricultural implements.
	Do. chebula	Harra, hirda ...	A tree ; wood fairly durable.
	Do. tomentosa	Saj, yen, mard ...	A large timber tree.

Appendix F.—(*Concld.*)

A List of Trees and Shrubs which have been noted, occurring in the Forests of the Northern Ranges.—(Concld.)

Natural order.	Botanical name.	Local name.	Remarks.
	Terminalia, arjuna. Beed ...	Kahua, anjan ...	A large tree; found on the banks of nalas.
	Calicopteris floribunda ...	Kukurranj ...	A climbing shrub.
	Anogeissus latifolia. (Wall) ...	Dhawra, adma ...	A timber tree used for cart axles.
	Do. acuminata. (Wall) ...	Phas ...	A large tree; with a dark grey rough bark.
Myrtaceæ ...	Engenia jambolana. Lam ...	Jamun, jamdi ...	An ever-green tree; the fruit is eaten.
	Barringtonia acutangula ...	Piwar ...	A moderate-sized ever-green tree.
	Careya arborea. Roxb ...	Kumbhi, kummar..	A moderate-sized tree; leaves turn red in cold weather.
Lythraceæ ...	Woodfordia floribunda. (Salil) ...	Jhilmilli, dhawai ...	A large shrub with smooth bark.
	Lagerstroemia parviflora. Hook ...	Sena ...	A large tree; wood being rough and elastic.
Samydaceæ ...	Casearia tomentosa. Roxb ...	Lenga, kari ...	A small tree; bark bitter.
Rubiaceæ ...	Adina cordifolia. Hook ...	Haldu, mundi ...	A large tree; the wood seasons well.
	Stephegyne parvifolia. Hook ...	Kaini, kadamb, Mundi.	A large tree; the wood is easily worked.
	Hymenodiclyon excelsum. Wall ...	Bhurker, bharsal, potur.	A large tree; wood used for plough-shares.
	Randia uliginasa. D. C. ...	Pendra ...	A small tree; the fruit is eaten.
	Do. dumetorum. Liun ...	Mainphal, gera ...	A small thorny tree.
	Gardenia lucida. Roxb ...	Dikamall ...	Do. do.
	Do. latifolia. Aiton ...	Banderluddii ...	A small tree.
	Do. gummifera. Roxb ...	Dikamali ...	Do. do.
	Do. turgida. Do. ...	Khurpendea ...	A small thorny tree.
	Mallotus philippineusis ...	Sheudri ...	A small ever-green tree; fruit a three-celled capsule.
Palmæ ...	Borassus flabelliformis. Liun Mall ...	Torl ...	A large tree with a three-celled capsule.
	Phoemix sylvestris. Roxb ...	Sindi ...	A tree of ashy grey foliage.
Gramineæ ...	Dendrocalamus strictus. Nees ...	Bans ...	The common bamboo.
	Bambusa arundinacae ...	Katang ...	The thorny bamboo.

Appendix G.

Summary of the Provisions of the Plan.

I.—Chappara Working Circle.

1. The general scheme is to fell over this circle in 30 years.

2. Provisions of the plan to be brought into force from 1900-1901.

3. One compartment, in each of the felling series to be felled over annually as per tabular statement, para. 48.

4. The method of treatment to be improvement fellings of varying intensity.

5. Six months before a compartment is to be worked, its boundaries to be marked on the ground where no natural features exist.

6. The Range Officer should mark all the trees to be reserved as standards before any felling is allowed. Such reserves should not be less than 40 per acre on good soil and in dense timber cover and 80 per acre in open forests and slopes of hills.

7. All trees cut must be felled flush with the ground.

8. Each compartment as cut over should be closed to grazing for ten years.

9. Each compartment as cut over should be isolated from the adjoining forests by a burnt line 50 feet wide and systematically protected from fire.

10. The whole circle to be brought under partial protection within ten years.

11. All climbers to be cut by the forest guards.

12. Feeder roads to coupes to be constructed and paths repaired where necessary.

13. All existing buildings to be repaired annually. Building quarters for subordinates within the first ten years of the rotation.

14. Existing wells and tanks to be kept in repairs.

15. All boundaries to be cleared and posts repaired annually.

II.—Chappara Grazing Circle.

1. The whole circle to be open to grazing throughout the year.

2. The whole circle to be brought under partial protection within ten years.

3. Provisions 3 to 5 to be the same as Nos. 13 to 15 of the Chappara Working Circle.

III.—Chappara Unworkable Circle.

All the provisions to be the same as in II Chappara Grazing Circle.

IV.—Dhooma Working Circle.

All the provisions to be the same as in I Chappara Working Circle.

V.—Dhooma Grazing Circle.

All the provisions to be the same as in II Chappara Grazing Circle.

VI.—Dhooma Unworkable Circle.

All the provisions to be the same as in II Chappara Grazing Circle.

VII.—Nerbada Working Circle.

All the provisions to be the same as in I Chappara Working Circle.

VIII.—Nerbada Grazing Circle.

All the provisions to be the same as in II Chappara Grazing Circle.

IX.—Nerbada Unworkable Circle.

All the provisions to be the same as in II Chappara Grazing Circle.

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