

APPENDIX T.

Statistics of assets, Revenue and Malikana.

Group No.	AT LAST SETTLEMENT.		SADAR JAMA FOR (INCLUDING CHAUDKARI FUND)—																	PROPRIETORS' INCOME.										REMARKS.								
	Mofussal jama.	SADAR JAMA.	Percentage of increase col. 7 on col. 3.																	Percentage of increase col. 9 on col. 4.																		
			Percentage.	Amount.	Percentage of increase col. 5 on col. 3.																	Percentage of increase col. 18 on col. 4.																
					Existing mofussal jama.																	Percentage of increase col. 18 on col. 4.																
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	Percentage.	Amount of final reduction of proprietary income Col. 30 on Col. 26.	Percentage.	Amount of present reduction of proprietary income col. 28 on col. 26.
						Settled mofussal jama.													Percentage of Sadar jama for 1899.	Percentage of Sadar jama for 1908.	Chaudhars payment included in the revenue.	Percentage of increase col. 9 on col. 4.	Percentage of increase col. 18 on col. 4.	Asset Settlement.	Percentage.	Existing.	Percentage.	Calculated on the Sadar-jama of 1899.	Percentage.	Calculated on the Sadar-jama of 1908.	Percentage.	Amount of present reduction of proprietary income col. 28 on col. 26.	Percentage.	Amount of final reduction of proprietary income Col. 30 on Col. 26.				
I	83,400	65	54,000	145,100	74	175,600	21	82,300	83,500	83,700	83,700	90,600	91,000	91,100	91,100	91,100	94,300	47	54	1,160	53	75	29,400	35	91,100	63	93,300	53	81,300	46	2,200	12	9,800	11				
II	78,000	64	50,300	131,600	69	158,500	20	79,200	79,400	79,800	79,900	84,200	84,200	84,200	84,200	84,200	85,800	50	54	2,300	57	70	27,700	36	81,300	62	79,300	50	72,700	46	2,000	2	8,500	10				
III	81,500	60	48,500	135,000	65	154,600	14	78,200	78,200	78,200	81,200	81,900	81,900	82,200	82,200	82,200	83,200	50	54	730	61	71	33,000	40	86,500	64	76,400	50	71,400	46	10,100	12	15,100	17				
IV	216,900	67	144,300	368,500	70	415,500	13	214,300	214,700	216,200	216,500	222,200	225,100	225,100	235,800	225,800	231,100	51	56	3,300	48	60	72,000	33	224,200	61	201,200	49	184,400	44	23,000	10	39,800	18				
V	116,800	64	73,900	206,800	78	246,800	19	128,500	131,000	132,400	133,100	136,500	136,500	136,500	136,500	136,500	137,500	52	56	3,310	73	86	42,400	36	132,900	64	118,300	48	109,300	44	14,600	11	23,600	18				
Total ...	576,100	64	371,000	987,000	71	1,151,000	17	582,500	586,800	590,300	594,400	615,400	618,700	619,100	619,800	619,800	631,900	50	55	10,500	57	70	205,100	36	616,000	62	538,500	50	519,100	45	47,500	8	96,900	16				
Total of col. 7 differs from total of col. 8 of Appendix U by Rs. 400. The difference is due to some reductions made in the gross assets in the Completion Report. The figures of assets at last settlement also differs slightly in the two Appendices. The figure of existing assets differs by Rs. 3,700. This is due to the fact that the Appendices have been compiled by different methods. There was some inconsistency in the method of entering existing assets. Thus some of the bills were paying Peshash (Quit) rents not entered in Appendix U.																																						

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Note.—these figures have been slightly revised after this report was written.

Total of col. 2 differs from total of col. 8 of Appendix U by Rs. 400. The difference is due to some reductions made in the gross assets in the Completion Report. The figure of assets at last settlement also differs slightly in the two Appendices. The figure of existing assets have been compiled by this is due to the fact that the Appendixes have been compiled by different methods. There was some inconsistency in the method of entering existing assets. Thus some of the assets were paying Peshah (Quit) rents not entered in Appendix U.

APPENDIX U.

Detailed statement showing areas, ass'ts, and holdings of all tenants,

Class of tenancy.	No. of recorded holding.		Assessed area.		Assets.			Average size of holding.		Incidence.			Percentage of loss or increase of area, col. 4 on 5.	Percentage of loss or increase of rent, col. 6 on 7.	Percentage of enhancement col. 8 on 7.	REMARKS.
	Last Settlement.	Present Settlement.	Last Settlement.	Present Settlement.	Last Settlement.	Existing.	Settled.	Last Settlement. Col. 9.	Present Settlement. Col. 10.	Last Settlement.	Existing.	Settled.				
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
Kharida Jamabandi...	1,200	3,400	14,800	15,100	11,406	10,700	16,900	12-30	4-40	0 12 4	0 11 4	1 1 11	+2	-6	58	(1) Included under Thani is an area 1,495 acres thani-minha (rent-free khana or khana-bari).
Other tenureholders	...	400	300	3,700	200	2,800	5,300	...	9-20	0 10 8	0 12 1	1 6 11	+1,133	+13,900	89	(2) 9,500 holdings of combined thani and patti lands have been included both in thani and settled and occupancy in order to exhibit comparative figures. This figure has therefore been twice added into the total number of holdings, which correctly reduced with amount to 356,400 only.
Kamil bazyafiti	14,100	16,100	38,200	26,500	28,400	15,500	24,300	2-70	1-60	0 11 11	0 9 4	0 14 8	-31	+46	55	(3) The number of holdings under settled and occupancy at last settlement is an estimated figure.
Nisfi bazyafiti	28,100	45,800	75,200	77,200	23,300	22,500	67,000	2-70	1-70	0 4 11	0 4 8	0 13 11	+3	-3	197	(4) Total of column assessed area at last settlement corresponds with that given in Appendix R, if the area of jagirs now assessed be deducted. The last Settlement area of these jagirs is entered in the Appendix for purposes of comparison, though it was not assessed at last settlement.
Thani	34,400	25,900	110,100	45,900	185,000	82,100	88,100	3-20	1-80	1 10 10	1 12 7	1 14 8	-58	-58	7	NORE—Revised figures have been included in the provincial report after this report was written.
Settled and occupancy	96,000	234,700	216,000	435,200	258,100	723,500	784,300	2-25	1-90	1 3 1	1 10 7	1 12 10	+101	+180	8	
Non-occupancy	...	10,000	...	13,400	...	13,900	21,700	...	1-30	...	1 0 7	1 9 11	...	...	56	
Chandna	22,300	12,400	17,300	3,300	33,400	11,400	11,600	0-80	0-30	1 14 10	3 7 3	3 8 3	-82	-66	2	
Chowkidari jaigir now assessed	2,100	2,400	7,200	7,200	...	...	12,400	3-40	3-00	...	...	1 11 6	...	...	...	
Patwari jaigir now assessed	120	300	1,400	1,400	...	...	1,000	11-70	4-70	...	...	0 11 5	...	...	...	
Paik and khandait jaigir now assessed	1,180	1,400	4,400	4,600	...	...	4,800	3-70	3-30	...	...	1 0 8	+4	...	...	
Tenancies newly assessed	...	3,600	...	4,800	...	...	5,700	...	1-30	...	...	1 3 0	...	...	...	
Tenancies valued for revenue...	...	9,500	...	8,700	...	15,000	15,500	...	0-90	...	1 12 7	1 12 7	...	...	...	
Total of tenancies	199,500	365,900	484,900	647,000	539,900	897,900	1,038,600	2-40	1-80	1 1 9	1 6 2	1 10 2	-33	-66	+17	
Nijjote and nijchas	2,600	10,700	21,700	45,600	26,000	80,000	80,000	8-00	4-20	1 3 2	1 11 0	1 11 0	-111	+203	...	
Sairat	...	...	...	...	10,600	12,800	12,800	...	...	...	...	...	...	...	...	
GRAND TOTAL	202,100	376,600	506,600	692,600	576,500	990,700	1,151,400	2-50	1-80	1 2 3	1 6 10	1 10 7	-36	+71	+16	

APPENDIX U (1).

Statement of lands reserved for grazing and cremation grounds.

Serial No.	Name of Thana.				Total No. of Villages.	Area.	REMARKS.
1	2				3	4	5
1	Basta	...	...	...	290	3,099	
2	Jaleswar	...	...	...	3	37	
3	Baliapal	...	...	...	336	3,261	
4	Balasore	...	...	...	381	6,155	
5	Bhadrak	...	...	...	258	6,255	
6	Dhamnagar	...	...	...	304	8,048	
7	Basudebpur	...	...	...	222	2,969	
8	Chandbali	...	...	...	58	1,377	
9	Soro	...	...	...	466	6,272	
	Total				2,318	37,473	

APPENDIX V.

List of Khasmahals.

Name of Khasmahal.	Area in acres.	Assets before Settlement.	Settled assets.	Remarks.
1	2	3	4	5
		Rs. a p.	Rs. a p.	
1. Mahapada ...	1	2 4 3	2 4 3	Abolished Police Out-post.
2. Nalkul ...	1	..	1 1 7	Do. do.
3. Bateswar ...	1	1 0 0	2 0 0	Acquired for the establishment of the Normal school.
4. Kasba ...	1	12 9 0	12 9 0	Abolished Salt Gola.
5. Dinamardinga ...	7	67 4 6	61 4 3	} Report, Para. 31.
6. Olandaj sahi ...	7	76 0 3	74 11 11	
7. Sartha Salt factory ...	115	57 9 9	57 9 9	
8. Rasalpur...	1	0 8 5	0 8 5	Abolished Police Out-post.
9. Khilari Jalpahi Bichitrapur ...	3,548	1,419 3 9	467,4 1 11	Report Para. 91.
10. Noanand...	16,412	27,311 4 6	31,457 3 3	Do. do.
11. Birso ...	1,575	1,933 14 11	2,136 5 1	Do. do.
12. Gandhina ...	1	0 15 6	0 15 6	
13. Bajetol ...	4	50 11 6	50 11 6	Salt Gola at Bhadrak.
14. Padanpur (Rukunadeipur)...	1	4 3 0	4 3 0	Abolished Police Out-post.
15. Panichhatra ...	1	2 0 0	2 0 0	Do. do.
16. Motto (in Killa Kanika)	2	8 4 9	8 4 9	Do. do.
17. Chandbali ...	118	876 13 5	1,123 1 9	
18. Shorts' Island ...	...	...	...	Unassessed.
19. Kanheigalpur ...	1	1 7 9	1 7 9	
Total ...	21,797	31,826 3 3	39,675 7 8	

APPENDIX W.

Chakran Jagir

Class of Jagirs.	AT LAST. SETTLEMENT		AT PRESENT SETTLEMENT.		DIFFERENCE +or—		AVERAGE SIZE OF HOLDING.		Remarks.
	No.	Area.	No.	Area.	No.	Area.	At last settlement.	At present. settlement.	
1	2	3	4	5	6	7	8	9	10
Washerman (Dhoba)	1,455	1,670	1, 44	902	—411 (or 28%)	—768 (or 46%)	1.14	0.86	These are the only jagir tenancies left un- assessed at this settlement. For particu- lers of Choukidari, Patwari, Paik and Khandait Jagir now assessed, see Appen- dix U.
Barber (Nipit)	1,450	1,600	1,115	962	—335 (or 23%)	—638 (or 40%)	1.10	0.86	
Blacksmith (Kamar)	680	690	309	341	—281 (or 41%)	—349 (or 50%)	1.01	0.85	
Carpenter (Barhei)	670	730	407	334	—263 (or 39%)	—396 (or 54%)	1.09	0.82	
Others	45	110	35	61	—10 (or 22%)	—49 (or 45%)	2.45	1.77	
Total	4,300	4,800	3,000	2 00	—1,300 (or 30%)	—2,200 (or 46%)	1.10	0.87	

APPENDIX X.
Statistics of Proprietary Tenure-holders admitted to execution of
Kabuliats.

Statistics of Proprietary Tenure-holders

NATURE OF TENURE AND CLASS.	Existing Number.	Area at Last Settle- ment.	Area at Present Settle- ment.	AT LAST SETTLEMENT.						Existing Mofassal Jama	Existing income of Tenure holder.	
				Mufassil Jama.	ALLOWANCE TO TEN- URE HOLDERS.		ALLOWANCE TO ZAMINDAR.		GOVERNMENT REVENUE.			
					Percentage.	Amount.	Per- centage.	Amount.	Per- centage.	Amount.		
1	2	3	4	5	6	7	8	9	10	11	12	13
Mokaddami-[25 p. c. at last settlement].	4	678	659	630	25%	153	15%	92	60	385	953	476
Mokaddami [20 p. c. at last settlement.	108	33,728	31,915	19,570	20%	3,953	15%	2,900	65	12,717	30,622	15,005
Total Mokaddamis	112	34,406	32,574	20,200	20 & 25%	4,106	15%	2,992	63%	13,102	31,575	15,481
Sarbarakari [20 p. c. at last settlement.].	14	3,454	3 486	1,960	20%	380	18%	338	62%	1,242	3,121	1,5
Do. [15 p. c. at last settlement.]	712	58,445	57,193	40,177	15%	6,025	20%	8,306	65%	25,846	65,104	30,952
Do. [10 p. c. al last settlement.]	5	583	588	406	10%	40	24%	96	66%	270	570	204
Total Sarbarakari	731	62,487	61,267	42,543	20,15,&10%	6,445	21%	8,740	64%	27,358	68,795	32,697
Prusethi Kharida [30 p. c. at last settlement.]	11	417	416	347	30%	99	7%	24	63%	224	437	189
Do. [25 p. c. at last settlement.]	3	187	208	184	25%	45	15%	27	60%	112	314	175
Do. [20 p. c. at last settlement.]	3	136	136	82	20%	17	16%	12	64%	53	125	60
Total Prusethi Kharida	17	740	760	613	30,25,&20%	161	13%	63	62%	389	876	424
Sikmi Kharida [25 p. c. at last settlement.]	1	151	138	117	25%	27	15%	17	6%	73	196	106
Kharida Jamabandi Aul [20 & 30 p. c. at last settlement.]	21	600	817	415	20 & 30%	116	10 & 15%	32	60 & 65%	267	1,083	734
Total Sikmi Kharida and Kharida Jamabandi.	22	751	955	532	20,25,&30%	143	10%	49	65%	340	1,229	840
Grand Total of all Tenures.	882	98,379	95,556	63,888	22%	10,855	15%	11,844	63%	41,189	1,02,475	49,442

X

admitted to execution of Kabuliats.

Settled Mofassal Jama.	AT PRESENT SETTLEMENT						Percentage of reduction of tenure holders income	Touzi Nos. of estates in which the Tenures situate.	REMARKS.
	ALLOWANCE TO TENURE HOLDER.		ALLOWANCE TO ZAMINDAR.		GOVERNMENT REVENUE.				
	Percentage	Amount.	Percentage.	Amount.	Percentage.	Amount.			
14	15	16	17	18	19	20	21	22	23
1,053	25%	283	1 %	196	57%	574	—41	Touzi Nos 1087, 232 & 24	MAKADDAMI. (1) The figures shown under the heading present settlement exclude the three years Rasad generally allowed.
35,221	27%	9,657	16%	5,672	57%	19,892	—35	Touzi Nos. 951, 231, 238, 219, 919, 920, 921, 922, 923, 924, 767, 734, & 722,	(2) The total number of Mokaddamas was 86 in 1872. (3) The figures given throughout the statement are for the existing number of Makaddami Tenures, viz., 112.
36,274	25 & 27%	9,940	17%	5,868	57%	20,466	—35		
3,640	29%	1,056	18%	66	53%	1,922	—31	Touzi Nos. 981, 982, 985, 382, 912, 150, 1657 & 24,	SARBARAKAR (4) The total number of Sarbarakari Tenure was given as 76 in 1872 by Mr. Fiddian.
73,923	%	19,752	20%	14,905	53%	39,266	—36	Touzi Nos. 734, 735, 701, 713, 725, 810, 823, 824, 43, 47, 48, 1260, 1261, 1262, 124, 232, 238, 141, 1304, 137, 1040, 196, 919, 920, 921, 922, 923, 924 & 577	(5) The figures given throughout the statement are for the number of tenures as now existing.
720	23%	162	22%	154	55%	404	—21	Touzi Nos. 665, 722, & 231.	(6) The figures shown under heading present settlement exclude those of Rasadi terms of three years generally allowed.
78,283	26%	20,970	20%	15,721	51%	41,592	—36		PRUETHIS AND KHARIDADARS.
529	30%	162	20%	106	50%	261	—14	Touzi No. 925.	The area and units shown are included in the Kharida Jamabandi figures given in Appendix U.
356	30%	112	10%	47	60%	197	—36	Touzi No. 737.	
147	20%	40	30%	39	50%	68	—33	Touzi No. 925.	
1,032	27%	314	20%	192	53%	526	—26		
205	0%	66	15%	30	55%	109	—38	Touzi No. 985.	
1,058	35, 34 & 36%	371	10%	103	55, 56 & 54%	584	—49	Touzi Nos. 693, 694 & 697.	
1,263	35%	437	10%	133	55%	693	—48		
1,16,852	29%	31,661	17%	21,914	54%	63,277	—36		

APPENDIX Y. Leading zamindars of the District.

Name of family or zamindars.	No. of estates held.	Deduced area.	Deduced Government Revenue.	Caste.	Resident or Non-resident.	Occupation.	Nationality.	Name of Pargana in which chief estates are held.	REMARKS.
1	2	3	4	5	6	7	8	9	10
1. Das-family of Suahat ...	59	90,654	55,014	Karan ...	Resident (Balasore)	Zamindari ...	Uriya ...	Banchas-oger, Soso and Satmalong.	This family hold a respectable position in the District. Baboo Radha Charan Das is chairman of the Municipality. They have a reputation for liberality and are in affluent circumstances. Descended from Bam Gobind, great grandson of Krishna Charan Mahanty. Ram Gobind was recognised as sarbarakar of a Taluk under the vilayati kanungo of Pargana Sunhat.
2.. Latifor Rahaman and others	42	18,100	16,000	Musalman...	Resident (Bhadrak)	Do.	Musalman...	Randiaorgara and Senaut.	The Mians of Bhadrak represent the Chief Musalman zamindars. The estates owe their good condition to Panchu Mian who added to their extent and to the position of the family. Since his death 12 years ago the heirs have quarrelled and separated their shares and the estates are not now well managed. One son Maulavi Ibrahim fell into debt and has sold his properties. Are of Afghan or Pathan descent. They have a limited supply of grain for advancing to raiyats.
3. Raja Baikuntha Nath De Bahadur and his brother.	40	62,470	42,161	Tamuli ...	Resident (Balasore.)	Do.	Bengali ...	Banchas-oger ...	Among the first zamindars of the District. The Raja has no heir and his brother Satyendra will inherit. Have a reputation for liberality and charity. In some cases at this settlement refused to allow cultivation in order to escape assessment. An influential zamindar. The family are not of old standing and have acquired the properties by purchase during the last 60 years. Large lenders of grain. Their ancestors were salt-contractors and had control of the sloop and export industry at the old part of Churaman. Are now mahajans and in affluent circumstances ; amongst the leading money lenders of the District. In several cases collusively concealed rents at this settlement and were the cause of much trouble in the Ankura estate of the Malik, who were in their debt. Held an ijara of the estate and filed collusive rents. Extensive mone and grain lenders to their own raiyats as well as to those of other estates.
4. Parth of Eram ...	36	22,600	17,700	Brahmin ...	Resident (Eram.)	Do. ... (and Mahajani)	Uriya ...	Senaut and Bali-khand.	An old zamindar family. Some of the co-sharers have contracted debts. Filed collusive rents at this settlement. Have considerable stocks of grain for lending to raiyats.
5. Choudhuries of Balikhand ...	30	7,000	10,000	Do. ...	Resident (Purusottompore)	Zamindari ...	Do. ...	Balikhand	Leading zamindar of Dhamnagar. Grandfather was a Deputy Collector at last settlement. Estates descend to a single heir who is trustee for the family. In affluent circumstances and has considerable lakhraj property of Afgan or Pathandescend. Has a limited stock of grain for advancing to raiyats.
6. Abdul Manan Mina ...	30	8,100	7,400	Musalman...	Resident (Sampur.)	Do.	Musalman...	Dhamnaga diaorgara Senaut.	Descendants of the old sader kanungos of Bhadrak are involved in debt and the properties will shortly break up. Nephew of Rai Gobind Ballab Rai, whose widow also owns estates. She is in the hands of intriguing sarbarakars and is on bad terms with her nephew. It becoming involved in heavy debt over the most trivial criminal cases. The property will shortly break up if it is not taken under the Court of Wards. Were at one time large lenders of paddy but stocks are decreasing.
7. Radha Kanta Roymahasay and others.	29	28,500	17,700	Kayastha...	Resident (Kampur.)	Do.	Bengali ...	Randiaorgara	

8	Kars of Balasore	...	24	34,089	14,027	Tamuli ...	Resident (Balasore.)	Zamindari ...	Bengali ...	Bhera and malang.	Sat-
9	Umesh Chandra Mandal and others.	...	21	79,522	49,387	Subarna Ba- nik.	Non-resident (Hoogly.)	Do.	Do.	Banchas-oger Ankura.	and
10	Jagannath Mahata and others of Agarpada Raj family.	...	20	13,000	12,000	Kshetriya...	Resident (Agarpada.)	Do.	Uriya ...	Soro and Purusandho.	Tuppa,
11	Bhagaban Chandra Das and others.	...	19	40,494	25,300	Oilman ...	Resident (Balasore.)	Da.	Do.	Banchas-oger	..
12	Bhuvan Abdul Sobban Khan and others.	...	19	9,874	4,731	Musalman...	Resident (Ortasasan.)	Govt, Pleader.	Musalman...	Garpada	...
13	Paharajes Dararachour,	...	15	16,870	16,956	Brahmin...	Resident (Erda of Darara- chour.)	Zemindari ...	Uriya ...	Senaut and rarachour.	Da-
14	Harendra Narayan Ray Mohasay.	...	15	23,436	12,896	Kayastha...	Resident (Lakhyannath.)	Do.	Bengali ...	Nangleswar	...
15	Bhuyan Srichandan Brinda- ban Chandra Ray.	...	14	8,141	7,089	Sundi ...	Resident (Rantrapur.)	Do.	Do.	Sahabandar	...
16	Hari Balabh Bose and others	...	12	39,400	26,000	Kayastha...	Non-resident (Calcutta.)	Do.	Do.	Bayang	...
17	Chaudhuri Gopendra Nandan Das Mohapara.	...	7	20,795	18,278	Karan ...	Non-resident (Pataspur.)	Do.	Uriya ...	Kamarda Bhograi.	and
18	Raja Shyam Chandra Mar- daraj Hari Chandan.	...	7	12,710	4,635	Kshetriya...	Non-resident (Nilgiri.)	Gurjat Chief or Prince,	Do.	Dasmalang	...

A family of Balasore traders who acquired wealth from the salt in-
dustry. Have purchased estates since about 1830. Means fell off with
the abolition of salt manufacture and now live on the income of their
estates.

Representatives of the Subarna Banik class of Chinsura; the family
hold a respectable position among this class of Bengali bankers. They
owe their rise as zamindars to Padma Lochan Mandal, Treasurer of
the Balasore Collectorate, about 1835. Babu Hemendra Chandra
Mandal has had some commercial education and is interesting himself
in the management of his estates. Have a limited supply of grain for
lending to their raiyats.

The so-called Rajas of Agarpada. An old family. The present Raja is
in the most reduced circumstances, and Babu Hari Balabh Bose has
purchased some of the property. The Raja subsists on the income of
the Debatore lands of the family Shrine Jagannath Mahata, called
Raja of Muajib, is in good circumstances; he is a large lender of paddy
and money in Soso.

At one time represented the leading local merchants. Trade has now
fallen off, and only resource is the income from their estates. Babu
Bhagaban Chandra Das is an acute and able manager.

Government Pleader. The family were originally Brahmans, and were
dispossessed by the Raja of Moharbhani. The ancestor of the present
proprietor recovered the estates through the Nawab Nazim by
apostasy to Muhammadanism. Females of the family retain a trace
of the old faith in their aversion to beef (Compare per contra the
Bhadrak Mian family who from living amongst Hindus have acquired
a similar aversion). Almost the only Musalman zamindar in the north
of the District. Has considerable influence over his raiyats. Estates
well managed. Does a large grain lending business.

An old family of zamindars, holding since an early period under the
Maharattas. Are among the largest lakhrajidars of the District. Have
considerable stocks of grain (the largest in Pargana Senaut) for
advancing to raiyats of their own estate and of Noanand.

Locally known as the Mohasay of Lokhyannath. Descended from a
Maharatta Kanungo. Primogeniture prevails. Is the only M.A. among
zamindars. Has a reputation as a considerable landlord.

Locally known as the Sahabandar Bhuiyan. An old zamindar family.
Properties were under the Court of Wards till 1895. Takes an interest
in his estate but relations with raiyats strained. The two brothers
are fighting the questions of primogeniture in the courts. Lends
grain to raiyats.

Government Pleader of Cuttack; owns considerable property in
pargana Bayang and in Cuttack, by inheritance from Monmohini Dasi
The estates are well-managed. The properties are increasing by pur-
chase. Large lenders of grain to raiyats.

Known as the Chaudhuri Kanungo of Bhograi. Ancestors were Sadar
Kanungo under Maharattas. Uriya by nationality but resident of
Midnapur. A large lakhrajid and in affluent circumstances. Has a
reputation for charity and considerate management of estates.

The Raja of Nilgiri. Collusive rents were filed in the Khejuri estates.
Management on the usual zamindari methods. Advances of grain
Made to raiyats largely in Ambohatta.

APPENDIX Y—continued.
Leading Zamindars of the District—concluded.

Name of family or zamindars.	No. of estates held.	Deducted Area	Deducted Government Revenue.	Caste.	Resident or Non-resident.	Occupation.	Nationality.	Name of Pargana in which chief estates are held.	REMARKS.
1	2	3	4	5	6	7	8	9	10
19 Gobinda Prasad Das	6	2,315	1,425	Karan	Resident (Balasore.)	Govt. official...	Uriya	Talsabang, Katisahi and Nunkhand.	Retired Inspector of Police. His eldest son Babu Abhoy Prasad Das has been many years on settlement. Descendants of an old family. Ancestors were Mahiratta subadars and granted lakhraj sanads.
20 Paharaj of Kurai	4	22,800	15,700	Brahmin	Resident (Kurai.)	Zamindari	Do.	Banchas-oger	An old family. In affluent circumstances and have considerable lakhraj property. Of rural tasks. Does a large grain lending business in his own estates.
21 Radhashyam Das and others	4	2,293	903	Weaver	Resident (Balasore.)	Do.	Do.	Dasmalang	Has some position as money-lender. Ancestors were engaged in the salt industry.
22 Kanungo of Nadigan	3	8,300	7,350	Karan	Resident (Nadigan.)	Do.	Do.	Bayang and Dhamnagar.	Descendant of a Mahiratta Kanungo. In affluent circumstances, custom of primogeniture prevails in the family. Has large stocks of grain for advancing to raiyats of his own and other estates.
23 Bhuyan Surendra Nath Sing Das Kanabhim Mahapatra.	3	13,614	4,577	Do.	Resident (Jamkunda.)	Do.	Do.	Satmalang	Locally known as the Jamkunda Bhuian. An old zamindari family. An early ancestor is said to have been a celebrated pirate. Estate has thrice been under the Court of Wards since last settlement. The present Bhuian attained majority in 1891. Family tradition that father will die young after birth of a son conduces to extravagance. Present Bhuian has lately had a son Lends grain to raiyats.
24. Lalmoan Das and others	2	8,800	4,100	Do.	Resident (Balasore.)	Do.	Do.	Killa Ambahatta	Grandfather was a Government official interested in the salt industry. Father was a well-known merchant of Balasore. Since his death family dissensions and abandonment of trading pursuits have brought the family into distress. Shares in some estates have been sold. At one time had large stocks of paddy, but now make no advances. In Ambohata, their chief estate, the Raja of Nilgiri is co-sharer and makes large advances of grain to raiyats.
25 Kanungo Bilayati, Akhay Narayan Das Baliarsing Mahapatra.	2	365	725	Do.	Non-Resident (Balisahi.)	Do.	Do.	Sahabandar	Locally known as the Bhuian of Balisahi; a resident of Midnapur. Has lately acquired the properties in this district. Said to be a litigious landlords. Lends grain to raiyats.
26. Malliks	1	27,000	18,300	Kayastha	Non-resident (Calcutta)	Do.	Bengali	Ankura.	The co-sharers are three widows in involved circumstances. The estates are well-managed by Babu Monmoth Nath Bose. It is in Ankura; see No. 4 above. The co-sharers belong to an old zamindari family of Calcutta. One of them is said to have sold her interest to the Parthis for Rs. 80,000 in satisfaction of debts.
27 Mahasay Kallash Chandra Ray.	1	255	204	Do.	Resident (Dehurda.)	Do.	Do.	Kamarda	Locally known as the Mohasay of Dehurda. A descendant of the old Mohasay family of Lokhannath. A good and enlightened landlord; has had some trouble with raiyats over nijhas-lands.—Inherited by a dismissed servant. Lessee of the so called Khas Mahal of Bichitraipur for the management of which he has received considerable praise from Government. Lands grain to raiyats.
28 Bhuyan Balabhadra Prasad Das, Mohapatra Bairiganjan.	1	18,251	11,200	Karan	Resident (Mangalpore.)	Do.	Uriya	Banchas	Locally known as the Bhuian of Mangalpur. See para. 92 on Kilas. Is a good landlord and in affluent circumstances. Makes grain advances.

APPENDIX Z.

Number, Areas and Rents of Non-mahal tenancies.

MAHAL TENURE-HOLDERS,										HOLDINGS OF RAIYATS PAYING TO TENURE-HOLDERS,										HOLDINGS OF UNDER-RAIYATS PAYING TO RAIYATS AND OF UNDER-RAIYATS OF NIJ-JOTE									
CLASS.	No.	Total area.	Area in Nij possession.	Area in possession of raiyats.	Nisakar area.	No. paying money rent.	Area paying money rent.	Amount of money rent.	Incident per acre.	No. paying Sanja rent.	Area paying Sanja rent.	No. paying Dhuli-bhag rent.	Area paying Dhuli-bhag rent.	Total No. of hold-ings.	Estimated No. of holdings. (2)	Total area in pos-ession of under-raiyats.	Nisakar area.	No. paying money rent.	Area paying money rent.	Amount of money rent.	Incident per acre.	No. paying Sanja rent.	Area paying Sanja rent.	No. paying Dhuli-bhag rent.	Area paying Dhuli-bhag rent.	Total No. of hold-ings.	Estimated No. of holdings. (2)		
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28		
Kharida Jamabandi and Sikmi Kharida Tenures	3,400	15,100	6,650	8,450	90	9,380	8,140	15,080	1 14 8	...	...	300	220	9,680	9,320	360	...	610	320	545	1 11 3	...	...	60	40	670	600		
Other Tenure-holders	400	3,700	1,740	1,960	20	1,550	1,700	2,960	1 11 10	10	10	180	230	1,740	1,690	85	...	70	15	23	1 8 6	...	...	70	70	140	190		
Baziafii Tenure-holders.	33,400	74,230	27,130	47,100	1,510	57,190	41,620	70,510	1 11 1	240	280	5,180	3,690	62,610	60,120	1,310	5	1,625	990	1,641	1 10 7	5	5	460	310	2,090	1,870		
TOTAL ...	37,200	93,030	35,520	57,510	1,620	68,120	51,460	89,100	1 11 8	250	290	5,660	4,140	74,030	71,130	1,755	5	2,305	1,325	2,209	1 10 8	5	5	596	420	2,900	2,600		

MAHAL RAIYATS.				
Total No. of holdings of Non-mahal raiyats from C Schedule.	No.	Area.	Average size of holding.	
				075
	105,533(1)	79,235		

REMARKS.				
(1) This figure exhibits the total of Non-mahal raiyats : details are given for some of the most important only. See report, para. 163				
(2) Estimated number of holdings calculated as shown in report, para. 163.				

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APPENDIX AA.

*Details of Expenditure shown in para. 200 for the family of an ordinary raiyat.
three adult members and two children.*

Condiments per month.						RS.	A.	P.
Fresh fish and "Sukhua" (dried fish)	...	...	...	...	...	0	4	0
Salt	...	...	...	...	...	0	3	6
Oil (mustard and kerosine)	...	...	...	...	...	0	7	6
Chilis, tamarind, mustard, and spices	...	...	...	...	...	0	3	9
Betel and chewing materials...	...	...	...	...	...	0	7	6
Tobacco	...	...	...	...	...	0	3	9
Molasses	...	...	...	...	...	0	2	0
Turmeric	...	...	...	...	...	0	2	0
Total						2	2	0
Clothing annual								
Two pair dhotis for each of 3 males @ 10 annas	...	...	...	...	...	3	12	0
Five gamchas at 6 annas	...	...	...	...	...	1	14	0
One sari, one dhoti, one gamcha for two females	...	...	...	...	...	2	7	0
One pair winter cloths	...	...	...	...	...	1	0	0
Total						9	1	0
Miscellaneous								
Village donations at the festivals of Dole Jatra, Durga Puja or at the time of cholera or small-pox.	...	...	...	...	...	0	2	0
Cash "Bidayi" to the Brahmans attending the house on special days	...	...	...	...	...	0	4	0
The village doctor for drugs...	...	...	...	...	...	0	4	0
For meeting and entertaining the relatives of the family	...	...	...	...	...	1	0	0
Vermillion for use by the females, excepting widows who are prohibited	...	...	...	...	...	0	4	0
Total						1	14	0
Ornaments of the Females								
Two bell-metal bangles ($\frac{1}{2}$ seer)	...	...	...	...	...	1	6	0
Do. anklets ($\frac{1}{2}$ ")	...	...	...	...	...	1	0	0
Do. armlets ($\frac{1}{2}$ ")	...	...	...	...	...	0	8	0
One necklace of silver coins...	...	...	...	...	...	10	0	0
One gold nose ornaments	...	...	...	...	...	3	0	0
One silver finger ring	...	...	...	...	...	1	8	0
Do. topped hair-pin	...	...	...	...	...	1	0	0
One pair shellac or brass "churis"	...	...	...	...	...	1	0	0
Total						19	6	0
Purchased once in 15 years ; annual outlay therefore Rs. 1-5-0.								

APPENDIX AA.—(Continued.)

Utensils.						Rs.	a.	p.
One bell-metal plate	...	...	...	...	...	1	10	0
Two do cups	...	...	...	...	...	0	12	0
One large brass "lota"	...	...	...	...	...	1	8	0
One small do	...	...	...	...	...	1	0	0
One large bell-metal cup	...	...	...	...	...	1	8	0
Earthen pots	...	...	...	...	...	0	4	0
Two cups of muguni stone	...	...	...	...	...	0	6	0
One drinking tumbler	...	...	...	...	...	0	8	0
Total						7	8	0
Purchased once in 15 years ; annual outlay, therefore, Re. 0-8-0.								
Extraordinary Expenditure								
BIRTH.—(The expense in largest at that of the first child.)								
One new mat	...	...	...	...	...	0	5	0
One new cloth	...	...	...	...	...	1	0	0
One pair shellac "churi"	...	...	...	...	...	0	8	0
Cowries...	...	...	...	...	...	0	0	3
Oil and turmeric for child	...	...	...	...	...	0	2	0
Purchase of fried rice and sweets on the 5th day	...	...	...	...	...	0	3	0
Purchase of cakes and palm-leaf ceremony on the 6th day when the Goddess of Fate is asked to determine the child's future,	...	...	...	...	...	0	4	0
Remuneration of washerman and barber	...	...	...	...	...	0	2	0
Total						2	8	3
DEATH.—								
One new cloth for the corpse	...	...	...	...	...	0	5	0
Food and oil for the men who carry and burn the corpse	...	...	...	...	...	0	2	3
Wood for burning obtained from zaminders where payment takes the shape of abwabs.	...	...	...	...	...	0	0	0
Food for the family, some Brahmans, the Washerman, Barber and Chowkidar on the 10th and 11th day (Ghura, Gur, Curds and Salt).	...	...	...	...	...	0	12	0
New earthenpots and occoanut spoons (the old ones being thrown away on the burial ground).	...	...	...	...	...	0	1	0
Ghi (Ghiabhat is the name of the ceremony)	...	...	...	...	...	0	0	6
For feeding the kinsmen	...	...	...	...	...	0	9	0
Total						1	13	9
For a child the expense will be half that for an adult.								

Marriage

	OF A SON.			OF A DAUGHTER		
	Rs.	a.	p.	Rs.	a.	p.
(1) On the day of contract. (Mahaprasad Nirbandha).—						
Betel nuts, spices and food for those attending	0	4	0	0	4	0
Cash payment to the father of the bride at a rate which varies according to the supply demand, and is stated by some as high as Rs. 50 but may be taken on the averages.	25	0	0	.....		
(2) On the eve of the Marriage (Mangalan).—						
Three pieces new cloth...	1	14	0	1	14	0
Expenses of "Khiri-Pitha" or feeding relatives some 30 in number with a specially prepared meal of "bhat, dal," pudding, curry, acid-curry, fish, a little ghi, cakes and sweets.	8	0	0	4	0	0
Expenses of feeding the "Najimats," i.e., the attendance drummer, conch-blower, barber, etc.	1	0	0	1	0	0
Necessaries for the bedi (marriage platform) ...	1	0	0	1	0	0
(3) On the Marriage day.—						
Ghi for "hom" (the ceremony of sacrificing it by burning before a shrine).	1	0	0	.....		
"Panchi" i. e., a pair of cloths for bridegroom and Sari for the bride.	4	8	0			
Miscellaneous articles ...	1	0	0			
Three or four pairs of Gamcha ...	0	12	0			
Payments to Brahman ...	0	4	0			
Do, to Drummer ...	0	4	0			
Do, to Conch-blower ...	0	2	0			
Do, to Barber and his wife ...	0	2	0			
Bearers for carrying bride to bridegroom's house	1	0	0			
Food ...	4	0	0			
On the 4th and 7th day ghi for the "hom"	0	6	0			
On the same occasion milk for pudding and other necessaries, etc.	0	10	0	1	0	0
Cloths sent by bride's family to bridegroom's ...	Nil.			2	4	0
Payment to the matrimonial agent ...	1	0	0	Nil.		
Bearers to carry bride to her father after the 8th day.	Nil.			1	0	0
Ornaments for the bride ...	...			12	0	0
Expenses of second ceremony ...	3	0	0	Nil.		
Miscellaneous ...	1	0	0	1	0	0
Zamindar's Salami ...	4	0	0	2	0	0
Total ...	61	2	0	27	6	0

APPENDIX B. B.

List of prices taken at Bhadrak on 1st June 1899.

Serial No.	Vernacular name arranged alphabetically	Corresponding English or Latin name	Current price per maund	Current price per seer.	Serial No.	Vernacular name arranged alphabetically	Corresponding English or Latin name	Current price per maund.	Current price per seer.
1	2	3	4	5	1	2	3	4	5
(a)—CEREALS AND PULSES.					(e)—SPICES AND CONDIMENTS.				
1	Buta ...	Gram ...	2 14 0	...	1	Alaicha ...	Cardamum ...	...	0 10 0
2	Biri Kala ...	Phaseolus (Black) ...	2 5 0	...	2	Ada ...	Ginger (raw) ...	7 8 0	0 3 6
3	" Noa ...	(Summer) ...	2 4 0	...	3	Bacha ...	Orris root ...	...	0 6 0
3	Barguri ...	(Pea) Vigua ...	3 0 0	...	4	Dalchini ...	Cinnamon ...	...	0 11 6
4	China ...	Kotieng. ...	...	0 1 9	5	Dhania ...	Coriander ...	...	0 2 3
5	Chana mota ...	Redseed ...	1 2 0	...	6	Gelmarich ...	Pepper ...	28 0 0	0 12 0
	" Saru ...	Paddy (coarse) ...	1 8 0	...	7	Goa ...	Betelnut ...	7 0 0	...
	Chaula Mota usena. ...	" (Fine) ...	2 4 0	...	8	Gujrati ...	...	5 0 0	...
	" superior ...	Rice (coarse) ...	...	...	9	Gandha Soonthi... A variety of dried ginger.	...	...	0 6 0
	Husked ...	...	2 8 0	...	10	Gadhaka ...	Sulphur ...	...	0 5 0
	" Saru ...	...	2 15 0	...	11	Gagala ...	Lignum aloes ...	...	0 6 0
	" Arua ...	...	3 8 0	...	12	Halki (desi) ...	Turmeric (local)...	...	0 3 6
6	Gaham ...	Wheat ...	3 0 0	...		" (Dakhini) ...	" supplied from South.	7 0 0	0 3 0
	Atta ...	Coarse flour ...	4 0 0	...	13	Jaitri ...	Mace ...	...	2 12 0
	Maeda ...	Fine flour ...	4 8 0	...	14	Jaifala ...	Nutmeg ...	...	1 0 0
	Sooji ...	Granular flour ...	6 0 0	...	15	Jasti madhu ...	Liquorice ...	...	0 6 0
7	Harar ...	Cajames Indicus ...	...	...	16	Jabakhar ...	Saitperre ...	...	0 5 0
	" Samalpuri ...	Brought from Central Province.	2 6 0	...	17	Jira ...	Cumin ...	14 0 0	0 6 0
	" Desi ...	Local ...	2 12 0	...	18	Jhoora ...	Resin ...	6 8 0	0 3 0
	" Kungoo ...	North-Western ...	4 0 0	...	19	Kala Jira ...	Sigella Indica ...	7 0 0	0 3 0
8	Jaw (grain) ...	Barley ...	3 0 0	...	20	Kabab hini ...	Cubeb ...	...	0 10 0
9	Kolatha ...	Dolichos biflosus ...	1 10 0	...	21	Karpudana ...	...	...	2 8 0
10	Khesari and chana. ...	Pisum Saliven ...	1 12 0	...	22	Karpura ...	Camphor ...	...	2 0 0
11	Muga Kala ...	Mung ...	2 12 0	...	23	Khaera ...	Catechu ...	14 0 0	0 6 0
	" Jhain ...	...	2 8 0	...	24	Lanka marich (Dakhini).	Chiles (from South)	12 8 0	...
	" Chaitta ...	...	...	...		" (Desi) ...	" (local)	...	0 3 0
	" Methi ...	...	4 12 0	...	25	Labanga ...	Clove ...	...	0 9 0
12	Masura ...	Ervum Lens ...	3 0 0	...	26	Methi ...	Finugreek ...	4 8 0	0 2 0
13	Mandia ...	Eleusine coracana rare.	...	0 1 0	27	Pan mahuri ...	Aniseed ...	7 0 0	...
(b)—OIL AND GHEE.					28	Panja ...	Onion ...	3 8 0	...
1	Chooa ...	A preparation of resin and oil ...	...	0 6 0	29	Postak dana ...	Loppy heads ...	9 0 0	...
2	Jara tela ...	Castor oil. ...	11 0 0	0 4 6	30	Pippali ...	Longpepper ...	...	0 7 0
3	Karanja tela ...	Guledupa oil ...	11 8 0	...	31	Rasun ...	Garlic ...	3 8 0	...
4	Kerosine ...	Petroleum ...	3 14 0	0 2 3	35	Raie ...	White mustard ...	4 12 0	0 2 0
		per box of 2 tins of 48 quarts or 50 lbs	...	...	33	Saupa ...	...	...	0 1 6
5	Nadia tela ...	Cocoonut oil ...	15 8 0	0 6 6	34	Saindhab Loona... Rock Salt	...	...	0 3 0
6	Rasi " ...	Gingelly oil ...	9 12 0	...	35	Sunthi ...	Dried ginger ...	...	0 5 0
7	Tesi " ...	Linseed " ...	10 0 0	...	36	Sindura ...	Vermillion ...	...	5 0 0
8	Sorisa " (Bengal) ...	Mustard " ...	10 0 0	...	37	Sora ...	Nitre ...	...	0 5 0
	" (Local) ...	...	10 8 0	...	38	Harira ...	...	...	0 2 0
9	Ghee Goa (Local) ...	Clarified butter of cow.	...	1 0 0	(f)—STIMULANTS.				
	" Mainisa ...	" of Buffalo	34 0 0	0 14 0	1	Aphima ...	Opium ...	per tola	0 7 6
	" Cuttack Supply.	"	32 0 0	0 13 0	2	Ganjai ...	Ganja ...	"	0 3 6
(c)—SUGAR &c.					3	Pati ...	" leaves	"	0 1 0
1	Chini ...	Refined white Sugar.	8 8 0	...	4	Sarap (Desi) ...	Country liquor ...	per lb	1 8 0
2	Gura ...	Molasses ...	4 12 0	...	5	Tadi ...	Date juice ...	...	0 1 0
3	Kanda ...	Treacle ...	12 8 0	0 6 0	6	Tamakhu Dokta	Tobacco leaf ...	15 0 0	0 6 6
4	Machri ...	Crystallized Sugar candy.	11 0 0	0 5 6		Gurakhu ...	Tobacco with molasses &c.	...	0 6 0
5	Madhu ...	Honey (Pure not available.	...	0 5 6	7	Pan ...	Betel leaves ...	per 1,000	1 0 0
(d)—SALT AND ACIDS.					(g)—MILKMAN'S STORES.				
1	AMBula ...	Mango slices dried with salt, &c. (pickler.)	3 6 0	...	1	Chhena Dudha ...	Milk cream ...	...	0 2 0
2	Tentuli ...	Tamarind cleaned.	1 2 0	...	2	" Dahi ...	Cardcream ...	...	0 1 0
3	Nuna (goda) ...	Karkach ...	3 10 0	...	3	Doodha Pure ...	Milk ...	...	0 1 6
4	" (panya) ...	Liverpool ...	3 10 0	...	4	Dahi (Ghola) ...	Butter milk ...	...	0 0 6
					5	" (Basa) ...	Curd ...	...	0 1 0
						Makhun ...	Butter ...	...	1 0 0
						" curd ...	...	...	0 8 0
(h)—CONFECTIONER'S STORES, &c.					1	Sweets ...	Made of Ghee ...	...	0 8 0
					2	" " ...	Ordinary ...	...	0 6 0
					3	Tarts & pastry, &c.	...	...	0 8 0
					4	Specially ordered things.	...	...	0 12 0
					5	Superior ...	...	...	1 0 0
					6	Chura ...	Flattered rice ...	3 0 0	0 1 6
					7	Hoorumba ...	Rice fried with sugar.	4 8 0	...

Serial No.	Vernacular name arranged alphabetically	Corresponding English or Latin name	Current price per maund	Current price per seer.	Serial No.	Vernacular name arranged alphabetically	Corresponding English or Latin name	Current price per maund.	Current price per seer.
1	2	3	4	5	1	2	3	4	5
(h)—CONFECTIONER'S STORES, &c.—(concl'd.)					(l)—FRUITS, &c.—(concl'd.)				
			Rs. A. P.	Rs. A. P.	19	Oau ...	...	...	...
6	Moorhi ...	Rice fried with salt	...	0 1 3	20	Panasa ...	Jack ...	1 per	8 annas.
7	Chhatu ...	.....	...	0 2 0	21	Peora ...	Guava ...	...	...
8	Ukhura ...	Sweetened fried rice	...	0 4 0	22	Sapoori ...	Pine-apple ...	1 per	1 anna.
(i)—METALS					23	Salma ...	.....	...	...
1	Kala Suna ...	English Standard coin	Per tola.	...	24	Tala ...	Palm ...	...	...
	Patri ...	Leaf gold	25 0 0	...	25	Tarbhuji ...	Water-melon ...	...	...
	Joypuri ...	Mohar gold	26 0 0	...	These and others vary according to produce of the season.				
	Chandi rupa ...	Pure silver	0 12 0	...	(m)—YARN AND COTTON PIECE GOODS.				
2	Tamba ...	Copper	...	1 8 0	FOREIGN.				
3	Kansa ...	Bell metal	...	1 2 0	1	Dhala Suta ...	White thread yarn—	...	...
4	Pital ...	Brass	...	0 15 0		No. 40	" Per rupee	8 moras.	—2 seers
5	Khapar ...	Antimony	...	0 6 0		" 20	" " "	10 "	—2½ "
6	Sinsa ...	Lead	...	0 5 0		" 12	" " "	7 "	—1½ "
7	Dasta ...	Zinc	...	0 5 0		Nal " 12	Red " "	5 "	—1½ "
8	Ranga ...	Paint	...	1 4 0		N'la " 12	Green, &c., "	4 "	—1 seer.
9	Loha ...	Iron	...	0 2 0		Other colour	...	...	...
10	Para ...	Mercury	...	2 8 0	2	Dhuti Bilati ...	Cloth 1 pair	10 yards.	1 8 0
(j)—COST OF MANUFACTURED OF METALS.						" " "	" " "	"	1 12 0
	Per tota of Gold	...	0 8 0 to 1 0 0	...		" " "	" " "	"	2 0 0
	" " Silver	...	0 2 0 to 0 4 0	...	3	Sari Bilati ...	1 pair	"	2 4 0
	" seer of Brass and Bell metal	...	0 6 0 to 0 8 0	...		" " "	" " "	"	2 0 0
This vary according to the workmanship and make and size of the article					4	Lawn cloth	1 than of 40 yards	5 0 0	...
(l)—VEGETABLES.						White	...	6 8 0	...
1	Alu bilati ...	Patatoes	2 4 0	0 1 3		...	...	8 0 0	...
2	... disi ...	Yam	2 0 0	0 1 0	5	Markin	1 than of 39 yds...	Rs. 3 to 6	according to quality.
3	Baiegana ...	Brinjal	...	0 0 6	6	Jute	...	6 0 0	...
4	Baital ...	Pumpkin As. 2 to 4 each of ordinary size.	...	...	7	Tasar (Silk)	...	...	5 0 0
5	Bhendi ...	.....	...	0 0 9	(n)—COUNTRY MADE COARSE COTTONS.				
6	Chhachinda ...	.....	...	0 0 9	1	Gamacha	Towel, 6 cubits	0 5 0	each.
7	Janhi ...	.....	...	0 0 6	2	Dhoti	9 cubits	0 12 0	"
8	Kadali (bantali) ...	Curry Plantain As. 5 to 10 bunch of ordinary size.	...	...	3	Sari	10 "	1 0 0	"
9	Kandamula ...	Sweet Potatoes	...	0 0 6	(o)—WOODS, FUELS.				
10	Karala ...	.....	...	0 0 9	1	Jalani	Fuels	0 9 0	0 0 3
11	Kobiphula ...	Cauli flower	As. 1-6 to 3 each.	...	2	Bamboo of middle	size length 30 ins.	8 pieces per rupee.	...
	Do.	Cabbage	...	...	3	Timber for posts, &c.	1 pair 6 ins. girth and 8 cubits length	As. 12 to 14.	...
12	Mula ...	Radish	...	0 1 3	4	Amba	Mango tree 1 tree for Rs. 3 to 7.	...	...
13	Nao ...	Gourd	...	...	5	Bara	Banjan 1 tree for Rs. 10 and other trees are sold in consideration of the quantity of fuel at average As. 4 per md	...	...
14	Panikakharu ...	Water Pumpkin	...	...	(p)—LIVE STOCK, &c.				
15	Sajana chuini	.....	6 per 3 pies	...	1	Balada (Ordinary)	Plough or pack bullocks, young and 5 ft. high.	15 0 0	0 0 0
16	Simba	Beau	...	...	2	Gai	Milk Cow (if with milk, Re. 1 to 1-4 per chhatak of her morning's milk, if day, at half rate.)	...	...
17	Saru...	Arum	1 2 0	0 0 6	3	Khasi	Goat	0 4 0	per seer of meat.
(l)—FRUITS, &c.					4	Bhera	.....	0 2 6	per seer of matton, per head.
1	Amba	Mango	According to the season's yield.	...	5	Batak	Duck goose	0 6 0	...
2	Atta ...	Apple	2 per 3 pies.	...	6	Morgi	Fowl	0 4 0	"
3	Batabi	Permelo	1 " "	...	7	Hansa	Goose	1 4 0	"
4	Bela ...	Wood apple	2 " "	...	8	Anda Murgi	Fowl's egg	2 for 3 pies.	...
5	Dalimba	Pomegranate	1 per 2 to 4 as.	...	9	" Batak	Duck's	2 for 3 pies.	...
6	Jamilo	Star apple	1 per 3 pies.	...	10	Beef	.....	1 anna per seer.	...
7	Jeste ...	Acid fruit	...	...		Fish (very rare)...	.....	4 annas	"
8	Kakuri	Cucumber	2 per 3 pies.	...					
9	Karmanga	.....	...	...					
10	Kaetna	.....	2 per 3 pies.	...					
11	Kagaji lembo	Lemon	3 per 3 "	...					
12	Kadali	Plantain (round)	2 per 3 "	...					
13	Kamala	Orange	...	...					
14	Kendoo	Embryopteris	...	...					
15	Maka	Maize	...	...					
16	Mahula	.....	...	...					
17	Nadia	Cocoanut	1 per	1 anna					
18	Narang	A kind of orange.	...	...					

APPENDIX C. C.

(c)—Value of Imports and Exports of the ports of Chandbali and Balasore for the year 1897-98

	IMPORT.			EXPORT.			REMARKS.
	Total value of Chandbali	Total value of Balasore	Total	Total value of Chandbali	Total value of Balasore	Total	
1	2	3	4	5	6	7	8
Foreign ...	Rs. 33,84,636	Rs. 6,75,685	Rs. 40,60,321	Rs. 6,08,320	Rs. 6,170	Rs. 6,14,490	See paras 208 and 209 of Report. The Chandbali figures include the trade of the Cuttack District.
Indian ...	32,09,738	9,49,876	41,59,614	45,51,908	12,90,180	58,42,088	
TOTAL ...	65,94,374	16,25,561	82,19,935	51,80,228	12,96,350	64,56,578	

(b)—Details showing the quantity and value of the chief articles of Import at the ports of Chandbali and Balasore for the year 1897-98.

IMPORT						
NAME OF CHIEF ARTICLES.	CHANDBALI.		BALASORE.		TOTAL.	
	Quantity	Value	Quantity	Value	Quantity	Value
1	2	3	4	5	6	7
FOREIGN						
Apparel ...	...	Rs. 2,79,116	...	Rs. 40,828	...	Rs. 3,19,944
Cotton Twist ...	504,000 lbs.	3,89,600	21,100 lbs.	13,150	525,100 lbs.	4,02,750
Do. piece goods grey unbleached	3,887,460 yds.	4,97,110	748,200 yds.	2,25,850	4,635,660 yds.	7,22,960
Glass wares ...	...	19,786	...	3,438	...	23,224
Hardware ...	...	56,005	...	5,954	...	61,959
Matches ...	...	34,446	...	2,700	...	36,146
Metal copper unwrought	2,972 cwts.	1,39,356	100 cwt.	1,100	3,072 cwts.	1,40,456
Do. Tin unwrought black	590	71,761	500 cwt.	300	1,090	72,051
Oil mineral, Kerosine	1,819,077 gals.	8,13,030	183,992 gals.	1,07,484	2,003,069 gals.	9,20,514
Paint and colours ...	...	19,309	...	659	...	19,968
Salt ...	7,287 tons.	3,75,620	3,683 tons.	1,43,892	10,970 tons.	5,19,512
Spices cardamoms ...	14,554 lbs.	5,454	448 lbs.	165	15,002 lbs.	5,616
Do. Pepper ...	25,033 "	4,254	1,344 "	292	26,377 "	4,546
Toys ...	...	7,191	...	2,506	...	9,787
Umbrellas ...	7,362 nos.	7,995	3,048 nos.	3,244	10,400 nos.	11,219
TOTAL ...	...	27,19,020	...	5,51,632	...	32,70,652
INDIAN						
Apparel ...	...	14,040	...	7,483	...	21,523
Cotton twist ...	4,267,800 lbs.	13,83,357	646,220 lbs.	1,80,222	4,914,020 lbs.	15,63,579
Drugs of sorts ...	6,776 "	22,148	...	...	...	22,738
Dyeing materials Turmeric other sorts	666 cwt.	4,300	3,008 "	590	9,784 "	4,776
Fruits, cocoanuts ...	577,000 nos.	18,844	73 cwt.	476	739 cwt.	18,889
Do. vegetable fresh	...	16,105	2,500 nos.	75	579,500 nos.	27,161
Grain Gram ...	3,127 cwt.	15,952	...	11,056	...	19,410
Do. Pulse ...	2,362 "	12,373	729 cwt.	3,858	3,856 cwt.	30,396
Do. Rice ...	97 "	522	3,080 "	18,023	5,412 "	522
Grains wheat ...	4,389 "	24,123	...	...	97 "	24,162
Jute, gunny bags ...	869,015 piece	1,81,912	6 cwt.	39	4,295 "	2,47,222
Oil vegetable cocoanuts	52,438 gals.	72,287	335,110 piece.	65,310	1,204,125 piece.	1,08,450
Provision, Ghee ...	44,832 lbs.	17,438	25,496 gals.	35,463	77,934 gals.	35,717
Do. other sorts ...	6,529 cwt.	58,268	51,380 lbs.	18,279	96,212 lbs.	86,526
Do. salted fish ...	2,968 lbs.	760	2,376 cwt.	28,258	8,905 cwt.	760
Seeds, Essential ...	5,955 cwt.	55,805	...	...	2,968 lbs.	78,126
" other sorts ...	1,662 "	14,671	3,164 cwt.	22,321	9,119 cwt.	15,756
Spices, betel nuts ...	4,057,942 lbs.	3,52,796	186	1,084	1,848 cwt.	4,36,119
" other sorts ...	1,159,388 "	1,32,341	954,968 lbs.	83,323	5,012,910 lbs.	1,88,743
Sugar, refined ...	4,900 cwt.	74,006	627,464 "	56,402	2,086,852 "	1,20,052
" unrefined ...	5,234 "	36,550	3,200 cwt.	46,046	8,140 cwt.	48,008
Toys ...	...	13,274	1,920 "	12,453	7,154 "	18,677
TOTAL ...	...	25,21,142	...	5,96,164	...	31,17,306
GRAND TOTAL ...	...	52,40,162	...	11,47,796	...	63,87,958

(c)—Details showing the quantity and value of chief articles of export from the ports of Chandbali and Balasore for the year 1897-98

EXPORTS.						
NAME OF CHIEF ARTICLES.	CHANDBALI.		BALASORE.		TOTAL.	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
1	2	3	4	5	6	7
		Rs.		Rs.		Rs.
Grain, gram	10,356 cwt.	31,683	...	...	10,356 cwt.	31,683
Do. Pulse	31,103 "	1,00,252	...	...	31,103 "	1,00,252
Do. Paddy	95,877 "	2,12,666	51,880 cwt.	1,33,211	1,47,757 "	3,45,877
Do. Rice	855,262 "	34,89,224	240,824 "	9,34,335	1,096,086 "	44,23,559
Hides, raw	18,654 "	4,43,298	1,635 "	46,693	20,289 "	4,89,991
Skins, raw	13 "	120	69 "	3,898	82 "	4,018
Horns	206 "	5,230	4 "	80	210 "	5,310
Jute, raw	23,222 "	25,741	584 "	2,390	23,806 "	28,131
Jute, gunny bags.	21,625 "	6,080	5,228 "	520	26,853 "	6,600
Lac-Stick	2,442 "	53,105	11 "	350	2,053 "	53,455
Manure, animal bones	29 tons.	3,858	15 tons.	222	44 tons.	4,080
Metal, brass wrought	1,298 cwt.	61,816	...	...	1,298 cwt.	61,816
" Unenumerated	790 "	29,330	261 cwt.	...	790 "	29,330
Seeds, Linseed	...	...	1,419 "	696	261 "	696
Seeds, Til	7,313 "	31,789	3,405 "	6,293	8,732 "	38,082
Stoneware (Mugani)	...	...	...	103,910	3,405 "	1,03,910
Wood and Timber	1,337 tons	73,940	3 tons.	116	1,340 "	74,056
Wood manufactured casks, &c, ...	...	4,751	...	473	...	5,224
Gold and Silver	...	4,17,267	...	31,800	...	4,49,067
TOTAL	...	49,90,150	...	12,94,387	...	62,84,537

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**COMPLETION REPORT on the Re-settlement of the Temporarily-settled
areas of the Sadar Sub-Division of the Puri District.**

PART I

STATISTICAL AND PHYSICAL DESCRIPTION OF THE SADAR SUBDIVISION OF THE PURI DISTRICT

1. Puri, the Southern District of the Orissa Division, is also the most southernly District of the Bengal Presidency. It lies between 19° 28' and 20° 26' north latitude and between 85° 00' and 86° 30' east longitude. The district is, divided by physical feature, historical tradition and administrative arrangement into two distinct portions. The hill country to the north-west included in the Government Estate of Khurda occupies two-fifths of the total area of the district, and is known as the Khurda Sub-Division. The remaining three-fifths of the District known as the Sadar Sub-division consists of a deltaic alluvial plain stretching from the base of the Khurda Hills to the Bay of Bengal.

The Sadar Sub-Division is situated between 19° 28' and 20° 22' north latitude and between 85° 12' and 86° 30' east longitude.

Its general shape is triangular. If we take the point where the Bengal and Bombay Presidencies meet on the coast line of the Bay to be the apex of the triangle then the base is the Cuttack boundary, a line 40 miles in length. The shore of the Bay forms the south-eastern and longer side about 90 miles in length, and the north-western and shorter side about 80 miles in length is the Khurda boundary.

Puri town, the head-quarters of the District, stands on the sea shore about half-way down the south-western side of the triangle, at 19° 48' 14" north latitude and 85° 51' 33" east longitude.

2. The total area of the Puri District is 2,499 square miles. The area of Khurda Sub-Division is 971 square miles and of the Sadar Sub-Division 1,528 square miles. The present reports is concerned only with the temporarily-settled parganas of the Sadar Sub-Division. To ascertain the area of this portion it is necessary to exclude from the total the following items:—

I. Permanently-Settled Parganas—

i. Marichpur ...	...	...	53.29 square miles.
ii. Andhari ...	...	...	16.10 " "
iii. Malud ...	...	...	15.35 " "
iv. Parikud ...	...	...	67.52 " "
v. Bajrakot ...	...	...	17.08 " "
vi. Manikpatna ...	...	...	24.14 " "
II. Chilka Lake, so far as included in the			
Sadar Sub-Division ...	...	...	310.35 " "
III. Lands of Khurda Killa ...	...	...	42 " "

Total	...	...	546 " "
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There remains a balance of 982 square miles. This is not entirely temporarily-settled. A large number of villages, portions of villages, and parcels of land are held revenue-free, and are altogether excluded from the areas of temporarily-settled estates. The area of these revenue-free lands amounts to 145 square miles.

There are also 10 square miles of permanently settled tenures within the Khodar khas mahals.

Lands occupied by various departments of Government and excluded from revenue-paying estates cover an area of 6 square miles.

If these items be excluded, the area of revenue-paying estates falls to 821 square miles, though the revenue returns show only 818 square miles temporarily settled.

Puri estates have lands in Cuttack District and some Cuttack estates lands in the Puri District. For the former an addition of 5 square miles and for the latter a deduction of 5 square miles has to be made so that no change is made in the temporarily-settled area.

3. There are two recognised divisions of the Sadar Sub-Division—the first Magisterial by thanas, and the second Collectorate by parganas. The former was originally made for purposes of Police administration, whereas the pargana was the old fiscal division obtaining from the days of the Hindu rajas. It is now proposed in Orissa as in Behar to extend the application of the thana and to make it the general unit for all administrative work. The Pargana division will submit only in certain estate registers and records for which an arrangement by parganas appears to be indispensable. Puri is divided into three thanas, viz., Gope, Pipli, and Puri, and into 24-parganas. The areas of the thanas are respectively :—

Gope	...	...	...	339 square miles
Pipli	...	...	...	331 " "
Puri	...	...	...	858 " "
Total	...	...	...	1,528 " "

This total includes 42 square miles of the Khurda Sub-Division, which for Police purposes is included in thanas of the Sadar Sub-Division,

The following is statement of the parganas arranged alphabetically :—

Name of Pargana			Area in square miles,	Name of Pargana			Area in square miles,
				Total brought forward ...			579.22
Andhari	...	...	16.10	Kerlo	...	...	20.18
Antrodh	...	...	53.20	Lembai	...	...	89.86
Astrang	...	...	8.97	Malud	...	...	15.35
Athaisi	...	...	52.13	Manikpatna	...	...	24.14
Bajrakot	...	...	17.08	Matkaipatna	...	...	10.48
Banchas	...	...	30.33	Merichpur	...	...	53.29
Chowbiskud	...	...	100.32	Oldhar	...	...	41.12
Damarkhand	...	...	29.49	Parikud	...	...	67.52
Kanman (Tappah)	...	...	6.50	Paschimduai	...	...	26.01
Kodar	...	...	27.46	Purbadluai	...	...	32.63
Kotdesh	...	...	182.08	Rahang	...	...	150.34
Kotrahang	...	...	55.56	Serai	...	...	67.32
Total carried forward...			579.22	Total ...			1,177.46

The pargana and thana totals do not tally, because thanas Pipli and Puri both include detached portions of Khurda Sub-Division, and thana Puri in addition comprises a large expanse of the Chilka lake which is not included in any pargana.

It will be seen from the above figures that thanas Gope and Pipli are of nearly equal size and are much smaller than thana Puri, but the latter includes besides the Chilka lake, Puri town, for which there are separate Police arrangements. Puri town is comprised in 16 survey villages and has an area of 2.92 square miles. If the town and the Chilka be excluded from the Sadar thana then we have for its true dimensions an area of 545 square miles with 786 villages. Even so reduced it is much larger than either of the other two thanas.

Of the parganas, Kotdesh is the largest with an area of 182 square miles, and Tappa Kanman the smallest with an area of 6.50 square miles. The average size of the pargana is 49 square miles.

4. There are 2,145 villages in the Sadar sub-Division, grouped as follows under their respective parganas and thanas.

Division into villages.

The area of the parganas in acres and the average size of a village in each pargana have been added :—

Name of Pargana.				Area in square miles.	Number of villages.	Average area of village in acres.
1				2	3	4
p.	Andhari	...	...	16.10	18	572
	Antrodh	...	...	53.20	127	268
	Astrand	...	...	8.97	16	359
	Athaisi	...	...	52.13	70	477
p.	Bajrakot	...	...	17.08	21	521
	Banchas	...	...	30.33	58	335
	Chowbiskud	...	...	100.32	180	357
	Damarkhand	...	...	29.49	74	255
	Kanman (Tappa)	...	...	6.50	18	231
	Khodar	...	...	27.49	45	991
	Kotdesh	...	...	182.08	355	326
	Kotrahang	...	...	55.56	190	187
	Kurilo	...	...	20.18	52	248
	Lembai	...	...	89.86	234	246
p.	Malud	...	...	15.35	10	982
p.	Manikpatna	...	...	24.14	12	1,288
	Matkatpatna	...	...	10.48	8	839
p.	Merichpur	...	...	53.26	56	609
	Oldhar	...	...	41.12	49	537
p.	Parikud	...	...	67.52	61	720
	Paschimduai	...	...	25.01	62	269
	Purbadrai...	{ Puri town	...	2.92	16	.....
		{ Rest of Pargana	...	32.63	73	286
	Rahang	...	...	147.42	236	400
	Serai ...	...	...	67.32	104	414
Total				1,177.46	2,145	351

The parganas marked (p) are the permanently settled parganas. A similar statement to the above is given thanawar (including detached villages of Khurda, excluding Chilka lake,).

Name of Thana				Area in square miles.	No. of villages.	Average area of village in acres.
1				2	3	4
Gope	...	...	...	339	614	353
Pipli	...	...	...	331	794	264
Puri	{ Town	...	...	290	16	118
	{ Rest of Thana	...	...	545	786	443
Total				1,218	2,210	351

These figures show that in the District as a whole there are nearly two villages to every square mile of country. Kotrahang is more thickly studded with villages than any other pargana. The permanently-settled parganas are the most sparsely populated, as they all comprise large unculturable areas of river, marsh and shore sand.

5. At the beginning of the last settlement there were 263 temporarily-settled estates in the Sub-Division. Their number has been increased by partition in the course of the settlement to 475. The distribution of estates by parganas according to the Collectorate registers is as follows :—

Name of Pargana.	Number of estate at last Settlement.	Number of estates at Present.
Antrodh	3	1
Astrang	1	14
Athaisi	7	41
Banchas	18	16
Chowbiskud	13	16
Demarkhand	13	2
Kanman (Tappa)	2	3
Khodar	2	35
Kotdesh	16	78
Kotrabag	50	8
Kurilo	8	7
Lembai	7	21
Malud	5	109
Oldhar	16	64
Paschimdual	36	22
Purbaduai	31	8
Rahang	21	3
Serai	8	19
Sultannagar	1	
Saidabad	7	
Total	263	475

Partitions have been most numerous in Paschimduai, Purbaduai and Kotrahang. In these parganas the process of sub-division has been carried to such a ridiculous extent that prior to resettlement they contained 57 estates paying less than Rs. 10 of revenue and 3 paying less than Re. 1.

A limit to the partition of temporarily-settled estates of the nature of that provided in Section II of the old Partition Act VIII of 1876 for permanently-settled estates has been provided for all revenue-paying estates in Section II of the new Act V of 1897.

Allowances were originally granted to zamindars on the theory that they relieved the State of the trouble, expense and risk of collecting the small sums payable by individual raiyats. When by excessive partition the amount payable by the zamindar becomes less than the amount realizable from the average raiyat the State gets no *quid pro quo* for the allowance it makes to the zamindar. This has been recognised in the new Act, and the line has been drawn at Rs. 10.

6. The extent to which estates differ in size may be judged from the fact that the largest estate in the District, viz., Kotdesh, touzi No. 44, paid before re-settlement a revenue of Rs. 81,082 and the smallest, viz., Salpuradong, touzi No. 479, a revenue of Rs. 14.

A classification of estates by former revenue yields the following results :—

Rs. 1 to Rs. 10	...	64
Rs. 11 to Rs. 50	...	131
Rs. 50 to Rs. 100	...	75
Rs. 100 to Rs. 1,000	...	177
Rs. 1,000 to Rs. 5,000	...	31
Rs. 5,000 to Rs. 10,000	...	1
Rs. 10,000 and over	...	5

The average amount of revenue was Rs. 604 per estate ; the estates which paid a revenue exceeding Rs. 2,500 may be specially mentioned ; they are in order of magnitude :—

Kotdesh, touzi No. 44	...	Rs. 81,288	...	Kotdesh and Antrodh pargana.
Delang, touz No. 257	...	Rs. 33,754	...	Lembai pargana.
*Rahang, touzi No. 268	...	Rs. 25,395	...	Rahang pargana.
*Krishnanagar, touzi No. 270	...	Rs. 19,583	...	Serai pargana.
*Krishnachandar, touzi No. 270	...	Rs. 12,651	...	Chowbiskud pargana.
Kotsahi, touzi No. 6	...	Rs. 5,392	}	Katrahang pargana
Pipli, touzi No. 62	...	Rs. 4,523		
Khodar, touzi No. 251	...	Rs. 4,189	...	Khodar pargana (a Govern- ment estate).

Killa Kokal, tauzi No. 421	... Rs. 4,163	} ... Chowbiskud pargana.
Killa Rovang, tauzi No. 130	... Rs. 3,383	
Killa Gobra, tauzi No. 189	... Rs. 2,514	
		... Athaisi pargana.

Three estates marked with an asterisk were during the late settlement held khas on account of the recusancy of the proprietors. The amount shown against them represents the average net income derived from them by Government over a series of 11 years.

7. The information that has been given above has reference to the old jamas payable by estates previous to the present revision of settlement.

In writing the assessment reports of the new settlement it has been found convenient to adopt an arrangement which differs slightly from the parganawar arrangement obtaining in the last settlement.

In the first place what may be called the obsolete or paper parganas—Mahal Musrud, Saidabad and Sultannagar—have been discarded. These were not territorial divisions of the District, but merely names given to small detached areas scattered over numerous parganas and included within the bounds of certain estates. In some cases they extend to the adjoining district of Cuttack. They have never been recognised as territorial units by the Survey Department either at last or the present settlement, and their areas have always been included within the parganas to which they geographically belong.

In the next place, it has been found convenient in a few cases to group together and re-arrange parganas because they have possessed some important feature in common. The new divisions have been styled "Blocks," and are as follows :—

Name of Block.	Parganas included	Reason for arrangement.
Kotdesh ...	Kotdesh ...	Because more or less conterminous with Kotdesh estate, touzi No. 44.
Khodar ...	Khodar ...	Because alike liable to inundation from the Debi and Prachi rivers.
	Kurila	
	Kanman (Tappa).	
	Astrang.	
East Athaisi and Damarkhand.	East Athaisi and Damarkhand.	Because more or less conterminous with Killa Gobra and alike liable to inundation from the Prachi and Kadua rivers.
West Athaisi and Matkatpatna.	West Athaisi	Because alike liable to inundation from the Kusabhadra river.
	Matkatpatna.	
Lembai ...	Lembai ...	Single pargana.
Kotrahang ...	Kotrahang ...	Do.
Paschimduai ...	Paschimduai ...	Do.
Purbaduai, Oldhar ...	Purbaduai (includes Oldhar, portion of Matkatpatna and Athaisi).	Because alike liable to inundation from the Bhargahi (Adlabad breach), the Dhauna and Kusabhadra rivers.
Rahang ...	Rahang ...	Single pargana.
Serai ...	Serai ...	Do.
Chawbiskud ...	Chawbiskud ...	Do.
Bhanchas ...	Bhanchas ...	Do.

To these have been added the miscellaneous items—Scattered estates.

The distribution of estates over blocks is as follows :—

Block.	Number of estates.	Area in acres (fraction omitted).
1. Kotdesh ...	39	123,300
2. Khodar ...	14	25,900
3. East Athaisi and Damarkhand ...	26	39,000
4. West Athaisi and Matkatpatna ...	10	16,800
5. Lembai ...	7	53,100
6. Kotrahang ...	78	28,000
7. Pachimduai ...	109	12,500
8. Purbaduai Oldhar ...	87	31,700
9. Rahang ...	22	68,800
10. Serai ...	9	40,300
11. Chawbiskud ...	16	56,600
12. Bhanchas ...	41	12,700
13. Scattered estate ...	27	14,600
Total ...	485	523,300

The average size of an estate is 1,079 acres. But the largest, Kotdesh, has an area of 110,562 acres; and the smallest Kharidagi-Mahure tauzi No. 487, an area of 43 acres. Under the new settlement the classification of estates by revenue will be :—

				Number of estates.
Re. 1 to Rs. 10...	...	...	...	46
Rs. 10 to Rs. 50...	...	...	...	106
Rs. 51 to Rs. 100...	...	...	...	78
Rs. 100 to Rs. 1,000	...	...	...	211
Rs. 1,000 to Rs. 5,000	...	...	...	37
Rs. 5,000 to Rs. 10,000	...	...	...	2
Rs. 10,000 to Rs. 1,00,000	...	...	...	4
Over Rs. 1,00,000	...	...	...	1

The variations in revenue will be from Rs. 1,04,324 (Kotdesh), to Rs. 1-2, and the average amount of revenue per estate Rs. 777.

8. To ascertain the average sizes of a holding and of a plot two different sets of figures must be considered.

As the number of revenue free holdings and plots cannot be separated out from the number of revenue paying without an amount of trouble incommensurate with the object, the average size of a holding may be ascertained by dividing the total assessed area by the total number of holdings according to the settlement reports, while the average size of a plot may be ascertained by dividing the total area of the temporarily settled parganas by the total area of plots according to survey records. The figures so ascertained are :—

Total assessed area.	Total number of holdings.	Average size of holdings.
373,300	204,400	1.8 acres.

Serial No.	Name of pargana.	Total area in acres.	Total cultivated area in acres.	Total number of plots.	Average size of plot 3÷5	Average size of plot 4÷5.	REMARKS.
1	2	3	4	5	6	7	8
1	Antrodh ...	34,054	26,909	98,084	0.34	0.27	
2	Astrang ...	5,743	2,839	7,625	0.75	0.37	
3	Athaisi ...	33,363	12,893	42,116	0.79	0.30	
4	Banchas ...	19,413	14,804	50,051	0.38	0.29	
5	Chawbiskud ...	64,207	37,471	90,236	0.71	0.41	
6	Damarkhand ...	18,876	13,012	38,450	0.49	0.33	
7	Kanman Tappa ...	4,163	2,335	7,354	0.56	0.31	
8	Kodhar ...	17,579	12,215	50,759	0.34	0.21	
9	Kotdesh ...	110,325	92,504	404,724	0.29	0.22	
10	Kotrahang ...	35,566	29,246	120,601	0.29	0.24	
11	Korilo ...	12,916	8,081	26,309	0.49	0.30	
12	Lembai ...	57,597	45,184	162,766	0.35	0.27	
13	Matkatpatna ...	6,709	2,382	7,453	0.90	0.31	
14	Oldhar ...	26,319	12,195	28,117	0.93	0.43	
15	Paschimduai ...	16,650	13,642	55,134	0.30	0.24	
16	Purbaduai ...	20,888	16,559	45,959	0.45	0.36	
17	Rahang ...	96,097	73,992	210,840	0.45	0.35	
18	Seral ...	43,091	32,526	75,313	0.57	0.43	
	Total ...	629,550	448,791	1,521,891	0.41	0.29	

An alternative figure for size of plot has been given, the first inclusive and the second exclusive of the uncultivated area. The number of uncultivated plots is comparatively small, though the area is considerable. It would be difficult to separate out the number without elaborate examination of the records, and as it bears only a very small portion to the total number its inclusion does not much affect the value of the average.

It would appear from the above figures that the average holding comprises 7 plots. The average village being 351 acres in extent, will comprise on the average 92 holdings and 699 plots.

9. The Sadar Subdivision of the Puri District is the south western section of the Mahanadi delta

General description of physical features.

It is flanked on the west by the hill country of Khurda, a continuation of the low ranges which separate the Native States of Nayagarh, Khandapara and Rumpur from the valley of the Mahanadi. The boundary between the Sadar and Khurda Subdivision is a well-defined line running close to the foot of the hills and occupied by the Koakhai and Daya channels. The valley of the Daya is crossed by the hills at two points only—at Dhaulagiri, an isolated peak standing in a detached village of Khurda in north Kotrahang below the bifurcation of the Daya and Bhargabi; and at Jagadapur, where there is a line of low hills intersected by the new Puri Branch Railway. The highest peak in this range rising behind the Jagadapur bungalow and crowned by an ancient Hindu temple, is about 100 feet above sea level. Dhaulagiri famous for the Asoka inscription carved on a great slab of living rock near its base is about the same height.

The Sadar Subdivision crosses the Daya at two places only—in north-west Lembai where it encroaches on the Khurda uplands and encloses the small hills of Kanbagpara Anragarh; and again in West Serai, where it diverges from the river for a distance of 2 to 5 miles and encloses some high land and rocky mounds in Garh Sanput.

With these trifling exceptions the Sadar Subdivisions is an alluvial deltaic country, stretching without break from the Eastern Ghats to the Bay of Bengal.

The main portion of the delta is contained between the channels of the Daya on the west and the Khusbhadra on the east. Beyond the Khusbhadra valley is a tract of high inferior land where cultivation is varied by stretches of moorland interspersed with patches of forest and scrub jungle. This higher belt forms the watershed between the southern Cuttack and Puri section of the Mahanadi delta. It stretches from the head of the Sadar Subdivision in North Kotdesh through parganas Antrodh, Demarkhand, Banchas, and the Kodhar block to the marshes of Killa Marichpur. The Katjuri through its chief offshoot the Devi finds an outlet to the sea in Killa Marichpur through a network of creeks.

In the delta proper lying between the Daya and the Khusbhadra three more or less distinct areas may be distinguished. The parganas as its heads—Kotdesh, Kotrahang and Lembai—are marked by considerable diversity of level. The higher lands are occupied by small patches of forest, by extensive mango, jack and palang groves, and by village sites concealed from view in the foliage of banyan, tamarind, and other umbrageous trees. Rice lands of varied levels fill up the intervals. The whole combines to form a pleasing picture, and the eye is nowhere wearied by dull flat expanses of plain country stretching unbroken to the horizon.

As we proceed further south we come to the second zone of the delta. There is here less diversity of level. Woodland scenery is rarer. The village sites are more exposed, and clusters of cocoanut, palmyra and date palms take the place of the more leafy groves of the north. The only breaks in the monotony of the landscape are caused by the large rivers whose banks are fringed with tries and under-growth. Parganas Athaisi, Purbaduai, Odhar, Pachimduai, Rahang, Chowbiskud and Serai lie within this second zone. In the southern extremities of these parganas where we approach the third zone the aspect of the country is dreary beyond description. The land is flat as the surface of a table; it is only a few feet above sea-level, and is mostly subject to river flood which converts whole tracts by turn into inland seas or marshy swamps. The village sites are huddled on the top of isolated mounds, some provided by nature, others constructed or developed by art. The trees, if any, round the homesteads are seldom more than a group of palms, so few that they can be counted on one's fingers.

The last zone is the area lying beyond the line of cultivation. On the south-east it is a belt of sand along the sea coast varying from 1 to 4 miles in breadth; on the south-west it is the great expanse of water called the Chilika Lake. Along the coast is a line of sand hills which the rivers of the delta find it difficult to pierce. The Khusbhadra on the east finds an obstructed outlet to the sea; but the Bhargobi, after flowing due south for nearly 50 miles, finds it can make no head way through the shore sand, throwing off some of its volume into the Sar Lake and the Samang Pat, two shallow lagoons to the east and north of Puri town, then turns abruptly to the west and makes its way to the Chilika.

10. Chilka lake occupies about one-fifth of the total area of the Sadar Subdivision. It

The Chilka Lake

is the great basin into which the rivers of the southern delta empty themselves. On the west it is flanked by the Khurda hills. On the east it is divided from the sea by a belt of sand and a group of low islands formed by silt deposit. A small opening of two or three hundred yards connects its waters with the sea and admits the tide. The lake is fresh in the rains and salt in the hot weather. The depth varies from a few inches to a few feet, and its area fluctuates with the season, with the intensity and duration of the annual river floods and with the ebb and flow of the tide. The normal area of the portion included in the Puri District may be taken to be 310 square miles and the average depth about 4 feet. An ornate description of the lake and its scenery may be found on pages 22 to 25 of Sir W.W. Hunter's "Statistical Account of Puri" and in volume I of the same author's Orissa."

11. Save in the west, where the subdivision encroaches on the laterite uplands of Khurda and on the south and east where the shore and forms a belt of varying width, the soil of the Sub-division is of the normal alluvial type found in deltaic country. There is every variety of admixture from almost pure sand to almost pure mud. Generally speaking the lighter soils, the sandy loams, are most abundant in the north of the district where there is much diversity of level. The black soils are found more widely in the lower levels of the southern parganas.

There are several native classifications of soils, as viewed from different points of view. Perhaps the most general is the division into—

Pal land the riverside silt-enriched soils on which miscellaneous crops of tobacco, sugar cane, arhar, kulthi, etc., are grown, and

Jal land, the ordinary rice lands within the embankments.

In the ruidad of pargana Rahang soils are divided into the following classes, which may be taken as typical :—

1. *Diha*, homestead land (including the garden as well as the house site).
2. *Kala* (black land) lying below the village site ; the land over which the washing water of the village is poured and all village refuse is thrown.
3. *Gora* (light coloured land) the ordinary crop land,
4. *Nadipatu* (river clay), the land on the river bank enriched by alluvial deposit (*c.f.* *Pal* land, above).
5. *Sarpalu* (watery land), as for example in the dalua tracts of the Sar Lake and the Samang Pat.

There are numerous names again for the different varieties of ordinary crop land according to composition, colour and other peculiarities. I have found the following names in use :—

Balichar.—Pure sand out of cultivation.

Balia or *Baliara*.—Sandy soil just fit for cultivation,

Balia matal.—Sundy loam, the most common of all soils and varying much in composition and fertility.

Goria matal.—Soil mixed with pebbles and small stones, usually high land recently reclaimed.

Dudhia matal.—(milk coloured).—White soil, very friable and fairly fertile ; grows fine paddy.

Telia matal.—A damp clay soil with an oily appearance ; fairly common and not unfertile.

Sudh matal.—Purely muddy soil.

Chaulia matal.—Brownish soil. very friable ; common and fairly fertile.

Pansia matal.—Ash-coloured soil, not uncommon and also fertile ; very friable.

Kimhiria matal.—Slate (crocodile)-coloured soil ; something like the preceding.

Telia Balia.—Intermediate between *balia matal* and *telia matal*.

Dhaulia matal.—Greyish-white soil.

Nalia matal.—Red soil.

Haldia matal.—Yellow soil.

} Called from their colours, which are due to peculiarities of local origin ; usually fertile.

Janha matal.—An inferior variety of *chaulia matal*.

Hadua matal.—Coloured like bone, and of hard consistency.

Khulti matal or *Khari matal*.—A chalky soil ; fairly fertile.

Chikta matal.—Sticky, muddy soil often found in the bottom of tanks.

Kala matal.—Black soil, usually of low levels ; the most fertile of all (to be distinguished from *kala mati*—the land round the village site).

Nunia matal.—A soil which from some peculiarity of composition becomes saltish in the hot weather. It abounds near the Chilka. The sub-soil I suppose gets affected and the saline impregnation gradually pervades the upper soil and gives it a bluish-white appearance.

Nunia (called *nuni char* while out of cultivation) soil which has been inundated with salt water and has not recovered ; may or may not be in cultivation. This is also common in the Chilka side villages.

12. When village notes were compiled in camp, raiyats used to be asked to give estimates of the produce of different soils. These estimates were anything but correct, and always

fell much short of the truth. They varied considerably from village to village. I give for what it is worth a table which shows for each class the number of times it is mentioned in the village notes and the average produce assigned by the raiyats.

Class of soils.					Number of times mentioned	Average produce in gownies—4.6 Bal. seer.
Balia or Baliara	...	...	...	...	4	75
Balia Matal	...	...	...	...	74	95
Goria Do.	...	...	...	...	1	30
Dudhia Do.	...	...	...	...	7	83
Telia Do.	...	...	...	...	11	85
Sudh Do.	...	...	...	...	25	106
Chaulia Do.	...	...	...	...	53	95
Paunsia Do.	...	...	...	...	12	100
Kimbhria Do.	...	...	...	...	5	88
Telia Do.	...	...	...	...	5	70
Dhoulia Do.	...	...	...	...	5	110
Nalia Do.	...	...	...	...	9	132
Haldia Do.	...	...	...	...	4	115
Janha Do.	...	...	...	...	3	90
Hadua Do.	...	...	...	...	1	120
Khalli Do.	...	...	...	...	1	80
Chikita Do.	...	...	...	...	3	90
Kala Do.	...	...	...	...	19	161
Nunia Do.	...	...	...	...	15	66
Nunia	...	...	...	...	5	80

The average for 262 entries comes to 98.7 gownies = 454 Bal. seers. This is of course an under statement; an addition of 50 percent at least would be required to make the estimates an approach to truth.

13. The range of hills which separate the Native States and the Puri District from the southern valley of the Mahanadi is pierced by that river at Naraj, a village 7 miles above Cuttack town and about 10 miles from the northern angle of the Sadar Subdivision of Puri. The Mahanadi, after emerging from the Naraj gorge, throws off to the south one of its chief affluents, the Katjuri, which in its main stream is the principal drainage channel of southern Cuttack. The Katjuri opposite the town of Cuttack, and only a mile or two below the point where it leaves the Mahanadi, is tapped by the Kuakhai, which is the head stream of the Puri section of the delta. It has three main distributaries at Baliauta, about 12 miles from its head; it sends off the Kushbhada to the left, and at Sardapur, 7 miles lower down, it divides into the Bhargovi continuing south, and the Daya inclining to the south-west. The most easterly of the three rivers, Kushbhada, makes its way by a more or less direct line to the sea and forces a sluggish passage through the shores and about half way between Puri town and the mouth of the Devi river, under which name the parent stream, the Kathjuri, finds an outlet into the Bay. The most westerly of the three distributaries, the Daya, follows more or less closely the base of the Khurda hills and enters the Chilka Lake at its north-east end. The Bhargovi, the central stream of the Puri delta flows almost due south in the direction of Puri town, and finding itself checked by the shore sand, curves rapidly to the west and seeks the Chilka, into which it discharges itself by a network of channels, some of them linked with the Daya.

14. The remaining rivers of the district are either tributaries and affluents of the three main streams, or local drainage channels. Beginning from the east corner of the district the following names may be noted : Killa Marchipur is drained by the Devi and its offshoots the Godokont, the Magranal and Kotai rivers. The Prachi carries down to the sea the drainage of the border country between the two districts. It is joined at its mouth by the Kadua, another local stream which flows midway between the Prachi and Kushbhada basins. The Kadua and the Prachi enter the sea between the two parganas Athaisi and Kurilo. The Kushbhada receives no important contributions from the east; but on the west, at a point 6 miles from the sea, it receives, the whole of the drainage of the parganas lying between its own and the Bhargovi chaupels. The Dhanua with its sub-tributary the Mugai conveys this large addition of volume to the Kushbhada, and the point of junction is said to be the lowest point in the delta. The distance of this point from the sea by a direct line is only 6 miles, but as the fall is very gradual, the river adopts a winding course and does not reach its destination till it has covered twice that distance. There is a constant struggle at the Kushbhada mouth between the river current and the tide. The struggle has resulted in the formation of a sandy bar which effectively checks the river discharge in time of heavy flood.

15. The Bhargovi, which is heavily embanked throughout, receives no tributaries of any note from the point of bifurcation at Sardapur to its turning point north of Puri town. On the other hand it gives off some of its volume to the Sar Lake by the Bengai and Kunchi

Nalas and to the Sameng Pat north of Puri by the Dhauria, East Kania and Athara nalas. The excess spil water of these escape basins is carried by the Harichanden or Suna Mahi river through the sand in a line parallel to the sea front for a distance of nearly 20 miles, when it enters the Chilka near the Chilka mouth. About 10 miles from Puri this channel was joined by a small stream from the north called the "Naya nadi" or "Mew". This small stream was some 40 years ago artificially connected with the main stream of the Bhargovi, and now as the "Naya nadi" is one of the escape channels of the great river. The Bhargovi after turning to the west thus gives off two affluents to the south-east, viz., the East Kania and the Naya Nadi. The rest of its progress is westward and north-westward towards the Chilka. It sends one offshoot, the South Kania, due west to the Chilka. The main stream then turns north and receives the Rathanchira, a tributary which conveys to it the drainage of the south-eastern half of the country between the Bhargovi and the Daya. Its course is again deflected west; and a network of channels carry its waters to the Chilka at the very point where the Daya enters the lake. The country between the two rivers Bhargovi and Daya has two chief drainage channels, the Rathanchira on the south and east, and the Nun on the north and west. The Rathanchira as remarked above joins the Bhargovi. The main stream of the Nun enters the Daya a few miles above its mouth, but it has numerous independent creeks connecting it direct with the Chilka. On its left bank the Daya receives several hill streams running down from the uplands of Khurda. The chief of these is the Gangua on the north and the Madagui on the south. The Gangua enters about the 10th mile, and the Madagui about the 28th.

16. All the rivers of the district have one characteristic in common. In the hot weather they are beds of sand with tiny streams or none at all, while in the rains they receive more water than they can carry. This is only the common experience of an Indian river. The particular evils that result in the Puri District will be discussed in a subsequent section of the report.

In Mr. Taylor's report of 1871, on the Orissa Embankment, are two statements that show at a glance the distribution of the deltaic rivers, and of the local drainages in the District, and though prepared nearly 30 years ago, give an accurate description of the present order of things.*

17. The rivers of the district have from time immemorial been restrained within embankments, and the cultivated lands have been in a more or less efficient degree protected from the disastrous effects of inundation. Before attempting to draw parallels with former times, I will endeavour to give a brief description of the embankments as they exist at present. They on the are shown accompanying map; to understand the map; it is necessary to know the recognised distribution under the following 4 classes:—

Class I.—Canal embankments which are intended to be above high flood level, marked 0000 (There are none of these in the Puri District).

Class II.—Agricultural embankments, mostly above present high flood level, which will probably be permanently maintained at their present height, marked 0-0-0-0.

Class III.—Embankments which eventually it will probably be desirable to abandon, but which it is proposed to retain for the present, marked []—[]—[]—[].

Class IV.—Embankments which it is undesirable to retain as in some cases they are actually harmful and the remainder are of doubtful utility, marked ++ ++ ++

Zamindari and abandoned Government embankments used to be shown in the maps by a zig-zag line thus  and classed V, but they have by recent orders been expunged from our records and need not be referred to.

It will be seen from the map that only the three principal rivers into which the Kuakhai breaks up, viz., the Daya, the Bhargovi and the Kushbhadra, are embanked. The Kuakhai has on its right bank a Class IV embankment which is continued for a few miles along the Daya. The embankment is not in good repair and no serious attempt is made to maintain it. For the rest of its course on the right bank the Daya is devoid of embankments. The Kuakhai on its left bank is defehded by a Class II embankment up to Baliana, where the Kushbhadra takes off, and by the Pilgrim road which acts as a Class II embankment from Baliana to Sardeipur, where the second bifurcation occurs. The Daya left has a Class II embankment from the point of bifurcation to within a few miles of the Chilka. The Bhargovi is defended on its right bank by Class II embankment continuous from its parting with the Daya to a point a few miles from the Chilka. On the left the embankment is of Class III. Its line is first broken by the unrepaired Adlabad breach in the 6th mile. From Gabkand to the opening of the Kanchi river the embankment is of Class IV. Then follows a series of escape channels and openings near the westwards curve of the Bhargavi. Three tracts of country enclosed by these escapes are protected by ring embankments of Class III. The largest is surrounded by the Bhargavi, The East Kania, the Nayanadi and the Harchandi river, forming an oblong about 15 square miles in extent. The rest of the left bank of the Bhargovi and its affluent the South Kania is embanked by Class III bundhs to within a few miles of the Chilka. The last few miles both on the Daya and the Bhargovi are left open, because in flood time there is always a heavy back water from the Chilka, and embankments are useless.

* See Appendices II and III

Class IV and a small stretch of Class III embankments are shown along the north shore of the Sar lake and the course of the Bengai river, but they have not been repaired for several years, and under present conditions are useless for the protection of the country lying to the north and east.

The Kushbhadra has a Class II embankment for 6 miles down the right bank, and a Class IV embankment not repaired and not continuous for 12 miles down the left bank.

It has been stated in a previous paragraph of the report that the Devi River, an affluent of the Katjuri, enters the District in the extreme north-west corner. There is a short length of combined Class IV and Class III embankment along the right bank at the place where it skirts Khodar pargana. This is breached in many places, and it has been proposed, if not already decided, to leave it in disrepair.

From the above, it will be seen that the present policy of Government is to effectively protect the large central tract lying between the Daya and Kushbhadra channels, and to leave the rest of the district to take its chance. The tract to the west of the Daya and to the east of the Kushbhadra are practically unprotected. The mid tract between the Kushbhadra and the Bhargovi is one only partially protected in the northern half. In the southern half it is exposed to the mercy of the annual floods.

A list of the existing Class II, III, IV, and of the abandoned Class V embankments, taken from the records of the Public Works Department, forms Appendix IV to this report. From this it will be seen that the distribution by classes is as follows :—

Class.	Miles.	Feet.			
II	...	97	1,336	...	To be retained permanently.
III	...	113	3,494	...	To be retained temporarily.
IV	...	46	1,790	...	Probably to be abandoned.
V	...	62	1,405	...	Already abandoned.

The total length of the existing embankments (Class V excluded) is 257 miles 1,250 feet.

As it was only a few years ago that the present policy of abandoning embankments supposed to be useless or injurious was inaugurated, it would have been interesting to contrast the average cost of maintenance before and after; but I have not been able to get the figure necessary for comparison.

In 1896-97 it appears that 257 miles 1,340 feet of Puri embankments were maintained at a cost of Rs. 35,792, or Rs. 139 per square mile, as against an average cost of Rs. 247 per mile in Cuttack and Rs. 182 per mile at Balasore. (See Government Resolution No. 209-I.D., dated the 18th February 1898).

With this we may compare the statements found in the statistical account of Puri, that the total length of embankments in 1866 was 316 $\frac{3}{4}$ miles with 43 sluices, maintained at an annual cost of £ 7 16s. or Rs. 156 per mile; that is at a total cost of Rs. 49,413.

The figures of a single year, taken at random, do not, however, convey much information. In 1896 there were heavy breaches, which swelled the bill of costs.

It has not yet been decided definitely what will be the ultimate fate of the embankments of Class IV. From the revenue point of view, I do not think that it would be judicious to abandon those on the Kushbhadra left, on the Bhargovi left, on the Bengai and on the Sar Lake. But the embankments on the Bengai, the Bhargovi left and the Sar are more or less useless if the Adlabad gap remains open. If then it is decided to leave the Adlabad gap in *statu quo*, there is not much to be gained by maintaining the others.

18. The volume of water poured in to the Puri District by the Kuakhai channel varies enormously from year to year. The carrying capacity of the embanked channels that conduct this water to the Chilka and the sea varies also with the distance from the head of the delta. To properly appreciate the condition of the problem, we want to know, first, what is the estimated discharge from the Katjuri into the Kuakhai in years of high flood. We then want to know the carrying capacity of the distributaries of the Kuakhai at various distances from the head of the system. Distances of 25 and 40 or 50 miles would supply data from which could be estimated the effect of floods on the upper and lower sections of the district respectively. The Superintending Engineer of the Orissa Circle has kindly given me some notes from which it appears that the estimated discharge of the Kuakhai at head, in the exceptionally high flood of 1842, was computed to be 334,483 cubic feet per second, and that the high flood discharge may in future be estimated at 277,180 cubic feet per second.

In a report of Major Harris, made in 1858, the discharge capacities of the Kuakhai distributaries at a point 25 miles from Cuttack were estimated as follows :—

Daya	...	...	33,100 cubic feet per acre.
Bhargovi	...	...	59,220 " "
Kushbhadra	...	...	9,853 " "
Total			102,173

After the flood of 1872, it was estimated that in their lower reaches these rivers could only discharge 45,000 cubic feet per second. It is evident then that, even in a year of very ordinary flood, when the discharge is, let us say, only half of the high flood discharge, the Puri rivers are unable to contain within their banks the volume of water passed into the district through the Kuakhai even within the first 25 miles; there must be a discharge of the excess. Under present conditions the spill in ordinary years occurs over the right bank of the Daya through the Adlabad breach in the Bhargovi left, and over both banks of the Kushbhadra about 20 miles below Cuttack. The relief thus afforded prevents breaching of the embankments lower down.

As regards the phenomena to be witnessed in exceptional years, we have ample evidence in the flood reports of 1892 and 1896.

The flood of 1892 was remarkable for its intensity, and that of 1896 for its duration. In 1892 the most serious breaches that occurred in the important embankments of the Daya Bhargovi and Kushbhadra were the following :—

On the Daya Left (Class II), at Madhepur in the 8th mile.

On the Bhargovi Right (Class II), none serious, Left (Class III), at Adlabad in the 6th mile; Gabkand in the 23rd mile.

On the Kushbhadra Left (Class II), at Jogisahi in the 1st mile.

These breaches occurred at places that are always weak points in the embankments. The breaches in the Daya left are caused by the return to that river of the great volume of water escaping across the Class IV embankments of the Kuakhai and Daya right bank. The flood water takes the direction of the Gangua Nala, and returning to the river at a point where the channel is constructed, impinges on the left embankment almost at right angles. After breaching the embankment and the Puri-Khurda road, the water makes its way across Lembai pargana. Some of its volume returns to the Daya south of the Jagdalpur hills, and again imperils the embankment. The rest seeks the Chilka through the channel of the Nun river. The left embankment of the Daya has not only to withstand the volume of this returning flood water, it is also endangered by the flood poured against it by the Mandagine, a tributary which in addition to its own volume, receives by a sub-tributary called the Rajna much of the flood that had spread over the west Daya tract. Breaches in the lower left embankment of the Daya are thus inevitable in years of heavy floods.

The Bhargovi right (Class II) is the most efficient of the district embankments, probably because on account of the breaching of the opposite bank and the relief so afforded to the river it gets less work to do than any other. It rarely gives way save in the lowest reaches of the river near the Chilka, where breaches have no serious results and flooding is inevitable.

The Bhargovi left (Class III) is the most troublesome of the embankments. Breaches have occurred so frequently at Adlabad in the 6th mile that since 1895 it has been decided to leave the gap open. The serious results that flow from this policy have been described in detail in the special report on Purbaduai, Oldhar parganas, and it is hoped that the question will receive reconsideration in the light of its relation to land revenue. The next weakest point is at Gobkand. No breach occurred here in 1896 because of the relief afforded by the Adlabad gap. The embankment from Gobkand to the head of the Kanchi outlet is shown in the maps as Class IV. I have not seen this portion of the embankment, but hope that it is not proposed to abandon it and intensify the misfortunes of the flood-afflicted parganas to the east. The relief afforded to the river by the Adlabad breach and the escape channels near Puri is such that no breaches occurred in the lower embankment during floods of 1896.

The Kushbhadra left embankment (Class II) is so aligned that breaches are inevitable in years of high flood. The embankments are funnel-shaped from the head of the stream downwards, and the contraction of the flood water volume can have no result but one. It is suggested by the Superintending Engineer in the report of 1896 that a gap be left at the point of breach. This, in my opinion, would be fatal to the prosperity of Kotdesh, one of the richest parganas of the district, accounting for over one-fourth of its total revenue. It cannot be argued that because an embankment is bound to give way in exceptional years, it should not be maintained in ordinary year, when its beneficial effects are inestimable. Raiyats will cultivate their lands and pay their rents if they know that they will be protected in ordinary years. They are resigned to the misfortunes of exceptional year, but they cannot be expected to face cheerfully a certainty of calamity.

19. To complete the account of the effects of floods on embankments, I make no apology for quoting Mr. Inglis' (Superintending Engineer's) note of January 27, 1897, which sums up the existing situation, and is to some extent a declaration of policy :—

*"Para. 8. Kuakhai Branch :—*The Kuakhai branch leaves the Katjuri on the right bank just below the Ganjam road, and flows through the Puri District. The chief peculiarity of this branch is that it has no large channel leading directly to the sea. The greater part of the water carried by it has to pass to the sea through the Chilka Lake. The channels by which the water is conveyed to the Chilka can in their lower portions carry only about 45,000 cubic feet per second as compared with 334,483, the estimated discharge of the Kuakhai near its head in the flood of 1872. It is therefore obvious that, whenever there is a high flood, a considerable part of the Puri District must become a lake for the time being.

"The flood entering the Kuakhai is first gauged at Kajeepatna. The reading here on 25th July was 81'68 as compared with 82'63 in 1892. Roughly, about three-fifths of the total discharge of the Kuakhai flows into it directly from the Katjuri main stream, and about two-fifths come into it a little lower down across the Ganjam road from the spill over the right bank of the Katjuri. The next gauge is at Baliana, 14 miles below. At this place the Kushbhadra branch leaves on the left bank. The highest reading of the year here was 71'35, that of 1892 having been 73'05. The Kuakhai in this length is embanked throughout on the left bank. There was a small breach in the 10th mile which caused no damage and which was soon closed. On the right bank the Kuakhai is not embanked for some distance from its head; lower down there is a more or less continuous marginal embankment, but it is not of much importance, and it is among those which have been scheduled in class IV. This was overtopped and breached in several places. The Kuakhai continues beyond Baliana for seven miles as one stream. It then, in Sardaipur, splits up into the Daya, which is the larger stream on the right, and the Bhargovi on the left. This was not breached, or overtopped, but some injury was caused by erosion. The highest reading of the gauge at Sardaipur was 53'67 as compared with 55'67 in 1892.

"9. *Daya Branch.*—The Daya Branch, commencing at Sardaipur, continues as one stream until it reaches the Chilka Lake. It has a continuous embankment on the left bank, which is able to stand a moderate flood such as that of 1895, but is bound to be overtopped and breached in a high flood such as that the present year.

"10. *Kanti Breach.*—The first breach occurred in the 11th mile. It is 360 feet in length, and the scour at the deepest part went down to 34 feet below the crest of the embankment. The gap will be closed either in the former line of bank, or by a ring bund, as may be found more economical. Breaches occurred here in 1872 and 1892, and as the flood way of the river narrows owing to high ground on the right bank just below this place, a breach here is inevitable in very high floods. It does not appear to be within the bounds of practicability, nor, if it were, would it in my opinion be desirable to raise the left embankment to such a height that it may pass all floods without breaching. This being so, there would appear to be only two alternatives—the one to leave things as they are, making good breaches when they occur; the other to construct at suitable sites on the left bank, escapes or overflow weirs, which would give the required relief to the river. The water from this breach passed off along the course of the Noona river. It is reported to have caused damage to the Khurda-Piplee road to have breached the newly constructed railway embankment close to the bridge over the Noona river, and to have brought down many huts in the villages.

"11. The next breach occurred in the 18th mile. It is 340 feet long and 16 feet deep from crest of embankment. This is said not to have caused much damage. The water passed off down the Noona river.

"The third breach took place some days after the first two in the 28th mile, and did not cause much damage, as the country had already been flooded by the water from the first breach. It was 300 feet long and 16 feet deep.

"In addition to the above breaches, some damage was caused at several places by erosion which will have to be made good either by slope cutting with stone pitching or by retired lines of embankment.

"12. At the Kanti gauge, which is 11 miles below Sardaipur and just below the first breach described above, the highest reading of the flood of this year was 37'95 as compared with 37'37 in 1892. In the latter year there were, however, in addition to a breach of 930 feet at the same place as the breach of this year, two other breaches above in the left banks aggregating 700 feet in length.

"In this case, as in all others where the gauges are situated below the points at which the embankments breach, the readings are in themselves no criterion of the magnitude of the flood. They are useful as indicating the volume of water passing at a particular point in a particular flood. The right bank of the Daya is now, except for a few miles near the head, open to flood throughout.

"13. *Bhargovi Breach.*—We may now return to Sardaipur and consider the Bhargovi branch. This runs as one stream for 29 miles when, near the point where it is crossed by the Puri road, it throws off on the left bank of the Kanchi branch. Further on it throws off also on the left bank the East Kania, the Nayanadi and the South Kania branches, and what is left of the Bhargovi finds its way to the Chilka lake in conjunction with the Daya.

"When I say that the Bhargovi flows as one stream up to the point where the Kanchi takes, I refer rather to past than to present condition. For several years in succession a breach occurred at Adlabad in the 7th mile of the Bhargovi on the left bank; it was decided last year to leave the breach open. About half the discharge of the Bhargovi passes out through this gap, and will take the course of the Dhamooa river, which lower down joins the Kushbhadra. Part of the combined discharge passes directly into the sea through a channel much obstructed by sand, and the remainder has to pass through the Sar Lake and on past Puri parallel with the coast, till it finds an exit through the sand ridges to the sea. With the exception of this gap the water in the Bhargovi was within its banks (natural and artificial) till near its end, where, owing to the water escaping from the breaches in the left bank of the Daya river overtopping the banks, it joined in the general inundation.

"14. *Kushbhadra Breach*.—As has been mentioned above, the Kushbhadra branch takes off from the Kuakhai at Baliana. This channel is now embanked for a few miles at its head, only the embankments lower down having been abandoned as useless.

"The present declared policy is to maintain the embankment on the right bank for a little over 6 miles, and on the left bank only for about half a mile, where it protects a village. As was mentioned in the report on the flood of 1895, there is a weak place in the right embankment close to the head, where a breach has occurred for several years in succession. This breach was closed by a strong bank in the early part of this year, and would probably have stood an ordinary flood. The unusually high flood of this year rose to the crest of the old embankment and broke through a short distance above the new bank. This breach quickly spread, and the whole of the old gap was opened out again. It seems a little doubtful whether we should not accept the situation and allow for an escape here. The water escaping at this place joins that from the Adlabad breach on the Bhargovi, and takes the course of the Dhanua river to the Sar Lake. In the meantime the gap will be closed by a strong bank, which is likely to be effective for some years at all events."

20. The notes that have been given in the preceding section refer chiefly to the effects of flood on embankments, and take little note of the effects on the country at large. To Mr. Inglis' report is attached a map which shows roughly the area affected by floods and the areas free from flood and is here reproduced. The area which is coloured blue represents the area which was submerged in 1896. The portion of the blue which is shaded with lines represents the area which, under present conditions, is liable to inundation in years of ordinary flood. The facts may be put briefly thus. In ordinary years the tracts liable to inundation are—

- (1) The West Daya tract, including West Lembai, West Serai and Balbhadrapur (of Khurda Subdivision) ; results serious.
- (2) The Dhanua basin, including the greater portion of parganas Purbaduai, Oldhar, Matkatpatna and a small portion of Kotdesh and Rahang parganas ; result serious.
- (3) The Samang Pat, north of Puri, suited for dalua cultivation. The inundation is a necessity, not an evil.
- (4) The lower reaches of the Kadua and the Prachi rivers : damage slight.
- (5) Portions of parganas Kodhar, Kurilo, Tapa Kanman. This is due to the inefficient state of the Khas Mahal and Public Works Department embankments on the south bank of the Devi.

The effects of inundation are most disastrous in tract (2), where the water lodges for a longer period than elsewhere on account of the inability of the Kushbhadra to discharge its volume quickly. It is also by far the largest of the tracts, and the annual loss of Government revenue, if the existing policy is continued, cannot be estimated at less than Rs. 4,000. The loss of zamindars and raiyats is many times that amount, but cannot well be gauged and reduced to figures.

In years of extraordinary flood the only portions of the district not liable to inundation are :—

- (1) Kotrahang.
- (2) Paschimduai.
- (3) East Rahang.
- (4) South-east Chowbiskud.

The whole of the rest of the district is converted into a lake for the time being. The effects are least disastrous in the northern parganas, where the groundfall is sufficient to carry off flood water before irremediable damage has been done. Kotdesh, Lembai, Antrodh, Damarkhand and Banchas may be placed in this category. The parganas further south are liable to suffer very heavy loss of crops. The loss in bad years is unusually disastrous in those parganas which even in ordinary years are subject to flood.

The problem of protecting the district from river inundation is a difficult one. It cannot, I think, be said that the present situation is very satisfactory, and it will not, I believe, be accepted as final. The problem is to conduct a given amount of water from the head of the district to the Chilika and the sea by channels that reduce to a minimum the chance of danger to the cultivated area.

In ordinary years the emanked channels of the Kuakhai distributaries are equal to the task. In extraordinary years they are unequal to it. The object to be aimed at is to conduct the excess water in directions by which it will do least harm. At present it is allowed to spill into low-lying areas, where the results are most harmful ; while on the other hand complaints are made that where flood water is wanted on the shores of the Chilka to neutralise the salt impregnations of the hot weather tides, a sufficient supply of river water is not now obtainable.

I make the above remarks with all due deference to the opinion of experts, as the problem is surrounded with professional difficulties which I have not the technical knowledge to estimate. It is further complicated by the claims of other tracts and by the want of funds. My chief object is to draw attention to the extent of the damage that is caused in certain areas by the present arrangement. A careful perusal of the Departmental Reports of recent years leads me to think that the damage in these areas has not been fully realized and considered

21. A word should be added about the liability of certain tracts to salt inundation.

Salt floods.

All the rivers of the District, whether they enter the Chilka or the sea, run dry in the hot weather and are then liable to have salt water forced up their channels by the action of the tides and the strong breeze which blows from the south for several months of the year. When the rivers are embanked and the tides high and the breeze strong the salt water overflows and does much damage to the cultivated fields. The tracts specially liable to this misfortune are a belt of about 5 miles round the shore of the Chilka in parganas Chowbiskud and Sarai, and the lands situated on the lower reaches of the Kushbhadra, the Prachi, the Kadua and the tidal creeks of the Kodhar block.

Fields deeply submerged do not recover fertility for a period of 3 or 4 years. The crops are therefore precarious in tracts liable to this visitation. For such areas river inundation is highly beneficial. The saline impregnations get washed out of the soil by river flood, and the effects of tidal flood are counteracted. But for this happy contingency, many large stretches of country would doubtless lie waste along the Chilka shore. There have always existed salt embankment in a more or less fragmentary condition. An attempt was made in 1896 to improve these bundhs, but the work was not completed. The subject has been fully discussed in the Khasmahal reports of Sarai and Chowbiskud parganas, and I understand that an effort will be made in the cold weather of 1898-99 to complete the line of embankments. (Written in July, 1898.)

22. Mr. Taylor's embankment report of 1871 supplies a mass of interesting information

Embankments and liability to inundation at last settlement.

regarding embankments as they existed then, and as they were shortly after the last settlement. His report embodies the results of enquiries made at the suggestion of the Embankment Committee which sat after the great famine of 1866-67. The object of the enquiry was to ascertain what obligations had been imposed on Government by the settlement of 1837 as regards the up-keep of embankments, and to report how these obligations were being fulfilled. Mr. Taylor found as regards Puri that Government had nowhere covenanted to either construct embankments or to maintain them in repair, but he states that as a matter of fact, "it has always been the custom for the Government to construct and keep up any embankment that might be required."

All the existing embankments were elaborately measured, described and detailed, and suggestions were made for their improvement. It does not appear that, save in the matter of the Adlabad breach, the embankments of 1870-71 were in a better or worse condition than at present. The Daya right had practically been abandoned; the Daya left, the Bhargovi right and left were maintained in good repair. The Kushbhadra right for about 13 miles was in good condition and the left was in great disrepair. The embankments on the smaller streams, some described as Government and some as zamindari embankments, were all in a state of great neglect; the Chilka embankments were in a condition almost exactly analogous to that of the present year.

Mr. Taylor gives some interesting extracts from a report made on the Puri embankments in 1853 by Captain Short, Superintendent of Bengal Embankments (pp. 73-76). The parganawar statements prepared by Captain Short show that the condition of the district in his time was worse than it is at the present day. It is curious to note that in discussing the case of pargana Kotdesh he uses the words.—

"Before such large volumes of water found their way down the Kuakhai (*vide* the Katjuri river), this pargana could be irrigated and drained at pleasure, but of late years it has suffered in the extreme from the floods breaking the embankments and topping the Puri road; but when the equilibrium is restored at the head of the delta, and a supply of water given commensurate with the channel, the prosperity of this tract will be restored."

This indicates that a few years before the words were written (probably before the great flood of 1855) the volume of water carried through the Puri District was much less than it was in 1858 and than it is now. Both in 1858 and later in 1871 there was under consideration a plan of erecting a weir across the head of the Kuakhai to regulate the Puri water supply.

The cost was estimated in 1871 at one lakh of rupees, equal to two years' cost of the annual repairs which then amounted to Rs. 50,000. The project has long ago been abandoned.

From Captain Short's statement it may be gathered that the Kodhar embankments were much neglected, and the country seriously liable to inundation.

Kotdesh suffered from breaches in the Kuakhai and Kushbhadra embankments.

Paschimduai was suffering from breaches in the Bhargovi embankments.

Purbaduai was two-thirds lying waste, and of *Oldhar* only one-seventh was cultivated on account of the disrepair of the *Bhargovi*, *Sar Lake*, *Bengai* and *Dhanua* embankments.

(The condition of these two parganas was worst, if possible, than at present.)

Rahang was liable to serious inundation, and the only remedy suggested was the regulation of the *Kuakhai* discharge.

Kotrahang had suffered serious damage of late years, and there could be no remedy save that suggested in *Rahang*.

Lembai was in the like condition to *Kotrahang* and *Rahang*.

Serai and *Chowbiskud* were very unfavourably placed on account of the absence of salt embankments.

Astrang
Kanman
Damarkhand
Banchas
Matkatpatna
Antrodh. } were beyond the influence of the embanked rivers, but not protected from the local streams, and various improvements were suggested. Compared with the above, present conditions show considerable advance and improvement. From the hopeless way in which Captain Short speaks of any policy other than that of regulating the supply at the head of the delta, it would appear either that the volume of water passed by the

Kuakhai is now less than it was in 1858, or that the plan suggested was of his own devising and was commended to the exclusion of others. Whether it is a solution applicable to the present situation, it is for others to say; my intention in examining these old records was merely to ascertain whether zamindars and raiyats have any grounds for making the suggestion that in the earlier years of settlement, revenue and rents pressed less heavily than now, because of the greater efficiency of the embankments. Whatever may have been the position prior to 1855, it would seem that at least since that year the reverse has been the case, and that, with the exception of the single tract affected by the *Adlabad* breach, zamindars and raiyats are much better off now than they were 30 or 40 years ago.

23. There are three stations for the registration of rainfall in the *Sadar Subdivision*, viz., *Piply*, *Puri*, and *Gope*.

Rainfall and temperature
The following table shows the distribution of the rainfall monty by month at the three registering stations, (1) normal, (2) for 1897 :—

Name of month.	Puri.		Pipli.		Gope.		Average.	
	Normal.	1897	Normal.	1897.	Normal.	1897.	Normal.	1897.
January ...	28	...	0.33	Nil	0.25	Nil	0.28	Nil
February ...	0.78	4.25	0.38	30	0.51	1.07	0.55	1.87
March ...	0.61	2.55	0.82	4.78	0.62	3.43	0.68	3.58
April ...	0.45	0.08	0.20	Nil	0.11	0.22	0.25	0.10
May ...	3.02	1.40	3.56	0.96	4.40	Nil	3.66	0.78
June ...	8.06	5.12	8.17	4.35	7.81	4.05	7.96	4.50
July ...	9.80	19.91	10.92	14.06	10.53	18.35	10.41	13.10
August ...	10.38	6.57	13.58	8.61	12.06	6.83	12.00	8.33
September ...	10.36	9.59	10.59	4.54	11.65	4.62	10.86	5.25
October ...	8.90	8.17	5.60	8.38	6.92	9.94	7.14	8.83
November ...	3.48	7.58	2.05	2.03	5.08	4.11	5.53	4.57
December ...	0.80	0.14	0.22	0.29	0.24	0.08	0.32	.17
Total ...	56.62	65.36	56.42	48.30	60.18	52.70	57.74	55.45

It will be seen that in normal years the variations are very slight between one station and another. This is as one would expect in a flat country where the interval from one station to another does not exceed 25 miles. In 1897 there was excess rain at *Puri* and a slight defect at *Pipli* and *Gope*; but the rain was well distributed, and a bumper harvest all over the district was the result. In 1896 the rainfall was heavier than normal, but there was practically nothing after August. The heavy rains of June and August caused floods which injured the crops, and the subsequent drought completed their ruin.

24. *Puri Town* is situated on the shore of the *Bay of Bengal*, and its temperature is equable all the year round. It rarely falls below 70° or rises above 90°. In the hot weather a strong fresh sea breeze blows up from the south and renders a temporary stay there an agreeable change from the accustomed heat of the plains. *Puri* cannot yet be styled a hot-weather resort or a favourite watering place of *Bengal*. It has been till lately too much cut off from the world to be of much importance, but it is now connected with the *East Coast Railway* by a branch line, and already there are indications that *Puri* will be sought after in the hot weather. When railway communication with *Calcutta* has been established, we may expect it to become a place of pilgrimage to seekers after health as well as to devout Hindus.

Puri town is situated in the south of the district, while Cuttack is only 7 miles from the northern extremity. The temperature of the district generally may be supposed to lie between that recorded at Cuttack and that recorded at Puri. I give in tabular form a note about the temperature of 1897, for which I am indebted to the Meteorological Reporter of Bengal:—

Month.	Puri.			Variation between Puri & Cuttack.		
	Maximum.	Mean.	Maximum.	Maximum.	Mean.	Maximum.
January	82·3	73·8	65·1	—4·7	—1·3	+1·9
February	85·7	79·8	73·8	—6·5	—1·5	+3·5
March	87·2	81·9	76·6	—8·9	—3·0	+3·0
April	90·7	85·1	79·5	—9·2	—3·6	+2·1
May	71·0	86·6	81·0	—10·8	—6·2	+1·5
June	89·9	85·6	81·0	—8·1	—4·1	+0·3
July	88·5	83·9	79·4	—3·1	—1·6	+0·1
August	87·6	83·4	79·2	—0·3	+0·4	+1·0
September	89·5	84·8	80·1	+1·6	+1·8	+1·9
October	88·8	82·8	76·7	+0·7	+1·3	+1·9
November	83·5	76·1	68·7	+0·2	+1·1	+2·0
December	79·6	69·9	60·2	+0·5	+1·7	+2·9
Average	87·0	81·1	75·1	—4	—1·2	—1·5

It will be seen that it is only in the day time and for six months of the year that Puri has an advantage over Cuttack. During the months of August to October residence in Puri is very trying. The temperature is high, the atmosphere laden with moisture, and the breeze, which blows so strong in the hot weather, is absent. It is curious that taking the whole year round, Puri should have a maximum average 4 degrees below Cuttack, and a maximum average $1\frac{1}{2}$ degree above Cuttack. This alone shows within how narrow limits the Puri temperature ranges.

25. The climate of the Sadar Subdivision is generally salubrious; save in certain swampy tracts of the Chilka, it is free from malaria. Perhaps the Subdivision can be divided climatically into 4 tracts—the northern parganas, free from water-logging in the rains, are the healthiest; the flooded parganas of the south are often submerged for over a month, and cannot but be unhealthy when the water is draining off and drying up; the coast belt, though always cool, is often unpleasantly moist and is apt to be enervating after long residence; the Chilka belt is damp in the rains and the atmosphere is disagreeably saline in the hot weather. On the whole, there is not much to complain of. I may add the testimony of personal experience by saying that I have been in the district for the better part of the last 6 years and have been into every nook and corner of it without contracting illness of any form.

PART II.

AGRICULTURAL ECONOMICAL AND HISTORICAL SYSTEM OF AGRICULTURE.

26. On this subject I can not do better than quote *in extenso* the notes of two Settlement Officers, Mr. R. Nathan and Mr. E. H. Walsh, who both spent a number of years in the district, and in the course of preparing soil maps gained a more intimate acquaintance with the raiyats, with the crops, and with the facts of cultivation than it has been possible to do under latter conditions, when the assessment problem reduced itself more or less to an acceptance of the existing situations. Mr. Nathan's work was carried on in Kotdesh, one of the northern parganas and Mr. Walsh's in Rahang, Serai and Chowbiskud, the three southern parganas adjoining the Chilka Lake. Their notes therefore throw light on the system of cultivation as carried on in two characteristic tracts, the northern tract with higher levels more or less free from inundation and a preponderance of beali, laghu and medium sarad rice, and the southern tract of lower level, more subject to flood and cultivated chiefly with their heavier sarads, bara dhans and spring rice.

27. Mr. Nathan's note on Kotdesh is as follows:—

Extract from Mr. Nathan's note on
Kotdesh on crops, vegetables, food-
grains, etc.

(h) Crops, vegetables, fruits and trees.

Food-grains.

Rice.—There are four main classes of paddy grown in Pargana Kotdesh corresponding to the four seasons of the year—spring (dalua), summer (biali), autumn (laghu), winter (sarad). The last is the most important crop. Dalua is divided from the other three by

marked distinctions. Biali is grown on much the same land as chota laghu and under very similar circumstances. There is, however, this marked difference, that whereas chota laghu is usually transplanted, biali is always sown broadcast. Sarad is grown on lower land than laghu, and is cut at a later season. There is no marked line of distinction between the two; the higher sarads and lower laghus merge gradually one into the other.

Dalua is very little grown in Kotdesh. There is nothing in the pargana to compare with the large fields of dalua grown on the marshy plains of Rahang. Its cultivation is confined to a few villages in the low tract of land comprising the south-east portion of the pargana, and to one or two more scattered villages in which advantage is taken of a small marsh or shallow tank to grow a small quantity of the spring crop. Cultivation of this nature is said to have increased of late years by way of experiment. The sort of paddy grown is inferior; the high land "panichi" seed is used in Saheb Nagar. Sowing is performed in January, and the crop is reaped early in April. The land is said to require ploughing about four times. It yields a low rate of rent.

Biali is grown on the high lands of the village and, except on inferior soil, is followed by kulthi or some other bazi crop. It occurs chiefly in the high lands of the north of the pargana and in the villages I have called the typical villages of the centre. It is not abundant in the low tract of the south-east. The best biali is grown on the "kalamati" soil in the vicinity of the village site. In the typical village this is often the best land and pays the highest rate; in some cases the rate for first class low sarad is higher. The narrow tract of land between the embankment of the river produces a good biali crop, but a crop very liable to inundation. The worst biali is to be found sometimes followed by kulthi, sometimes as an ekfasli crop on high light soils in the neighbourhood of waste land or recently cultivated from waste. There are large tracts of this inferior biali in the villages of the north; it occurs also as a frequent irregularity in the typical villages of the centre and in the villages on the river side. The best biali land produces in a good year about 1½ bharans per acre. Inferior land produces as little as 20 to 40 gounies. The rate for such land varies as a rule from annas 6-3 to annas 12-6 rising to Re. 1-2 and in a few instances to Rs. 1-9. The high biali lands are the first to be ploughed; the operation begins with the advent of the rains. The land requires ploughing 7 to 8 times, or even more frequently. Sowing should be finished early in June. The crop is never transplanted. The cultivation is more hazardous than that of winter rice. If there be not abundant rain within eight days to a fortnight from the time of sowing, the crop is materially injured or entirely lost. The biali harvest is in August and September before the laghu is reaped.

The laghu and sarads form a long range comprising crops grown on most diverse levels and classes of soil. The following list is by no means exhaustive, but gives examples of five typical classes into which the series divides itself:—

- | | | |
|-----------------|-----|--|
| 1. CHOTA LAGHU | ... | { Panichi.
Saura.
Asina.
Motra. |
| 2. MEDIUM LAGHU | ... | { Chota Champa,
Bara Pankha.
Dhoya Madhabi. |
| 3. BARA LAGHU | ... | { (a) Nandi Machkanta, Bangalla.
Machkanta.
(b) Champa. |
| 4. SARAD | ... | { (c) Kadalia Champa.
(d) Bara Pakhia.
(e) Balvadra Pakhiya.
Kajra. |
| 5. BARA DHAN | ... | { (f) Kalasira.
Dhaura Champa. |

The five classes are arranged in the descending order of the levels of their occurrence.

Chota laghu is the worst of the five classes. It occurs on much the same soils as inferior biali, the same land being some years cultivated with biali and some years with panich and saura. The yield varies from 20 to 80 gounies the acre, and the rate of rent from annas 6-3 to annas 12-6 rising to Re. 1-2, and rarely Rs. 1-9, the same rates as for inferior biali. Medium laghu, bara laghu, sarads and bara dhan are sometimes to be found altogether lying in terraces one below the other. The medium laghu lies immediately below the biali dofasli, and the bara dhan comes at the bottom of the slope. In the majority of cases the lower levels are the most fertile and pay the highest rates. Where, however, the village is very liable to inundation, or the soil of the lower levels is for some reasons inferior, one of the higher levels produces, taking the average of a course of years, the best crop. Thus in Anjira, where the low soil is described as inferior (Noya jay), there is a staircase in which the rate rises with the level until the region of chota laghu is reached, when the rate again falls. Successive rising levels so respective rates of Rs. 1-9, Rs. 2-4, Rs. 2-8, and Rs. 2-12 per acre. In the same village there is another plot of low but good soil, sarad.

(a) Nandi Machkanta—Small fish-bone.

(b) Champa—A species of flower.

(c) Kadalia Champa—The plantain-coloured champa,

(d) Bara pakhia—Large winged.

(e) Balvadra pakhia—White winged.

(f) Kalasira—Black veined.

paying at the rate of Rs. 3-4. Again in Anantapur, a village liable to inundation, the lowest sarad pays only Rs. 1-10-12 an acre, whilst the level next above pays Rs. 2-14 to Rs. 3-3-6. High chota laghu in the same villages pays annas 8-10 to Ke. 1-1-8.

The best medium laghu is grown on good soils just below the biali dofasli, and is itself often followed by a second crop of kulthi or mugh. Inferior asina and motra occur on less fertile land as a rule in the vicinity of chota laghu. In high villages preferring a wet season, nandi and champa are the lowest forms of paddy that occur. If the village is well watered and suitable for the cultivation of mugh, these lands yield a high rent. Bara pakhia, balvadra pakhia and kadalia champa are grown on low and first class soils, and yield as a rule the highest rate of any form of sarad.

Kajra and kalasira are coarser forms of rice. As a rule they are grown on land liable to inundation, but yielding in a favourable season a very large outturn, amounting to 2½ to 3 bharans an acre.

Champa and kajra are frequently grown in the shallow beds of small streams from which the water disappears after the rainy season. The smaller and shallower of these streams are called "jaris." Those rather larger are named "jaras". The rice in the streams is often liable to inundation; when this is not the case, the land is esteemed very fertile and pays a high rate. I have already described the occurrence of these streams in the high villages of the north of the pargana.

The following figures represent approximately The outturn per acre under favourable circumstances of the different class of laghus and sarads:—

Chota laghu	...	...	...	50 to 60 gounies.
Medium laghu	...	...	...	100 „ 120 „
Bara laghu	...	...	...	140 „, gounies to 2 bharans,
Sarad	...	...	...	2½ „ 2¾ „
Baradhan	...	...	...	2½ to over 3 „

Narsingbhog, kalajori, sabdhan, kedargundi and dianbhog are the best qualities of grain produced in the pargana. They are cultivated and eaten only by the mukaddams and more substantial raiyats. They are grown on high sarad and low bara laghu levels; the produce is rather less than that of champa and nandi grown on similar soil.

(Kedargundi is cultivated on rather higher land than the other species. The highest undisputed sarad rates I have encountered whilst making soil maps are Rs. 4-9-3 and Rs. 5-6-0 an acre, both in lakhiraj bahal mouzas. The rates from village to village and even the rates in the different chaks of the same village very very capriciously; the following are the operations involved in high class paddy cultivation (sowing) such as mukaddams and will-to-do raiyats engage in.

(1) Ploughing begun as soon as a downfall of rain permits and continued until the end of May and June. After rain the higher lands are first ploughed, the lower after an interval of a few days. High land requires ploughing more frequently than low. Kajra and kalasira require ploughing only two or three times, champa about four times, nandi five or six times and chota laghu as many as six or seven times. A plough and bullocks can plough from three-quarters of an acre to an acre during the course of a day. The furrows are not made straight across the field and then again at right angles to the first direction. The plough is drawn round the field in rings parallel to the outlines.

(2) Manuring immediately after ploughing.—The land is manured to the extent the raiyats' means allow. All lands, except perhaps the lowest level receiving silt deposit, requires manure. In practice about 25 to 50 per cent. of the lands receive some sort of manuring. The best manure is "khata," cow's dung and mud; and inferior manure is "gara," mud from the bottom of the nearest ditch. The raiyat derives part of his khata from his own cattle, the rest he purchases from gowalahs. The gowalahs dig pits into which they throw the droppings of their animals. In the rainy season this mixes up with water and mud and is ready for use. The word khata means "pit refuse or what is dug in," being derived from the Sanskrit khat, past participle of khan, to dig (see Statistical Account of Puri). The raiyats buy the pit as it stands. A pit containing 3 to 4 bharans of manure is sold for about 8 annas. Four bharans of khata are considered an ample supply for an acre.

(3) Sowing should be completed by the end of June. About 10 gounies of seed are used per acre.

(4) Benshana performed about a month after sowing, when the plants are already well above the ground. Where there has been enough rain to thoroughly soak the land and leave water standing on the top, the land is again ploughed through the water. The plough is only drawn once round, or occasionally on high lands twice. It is of great importance that this operation should be performed as soon as possible. The season is considered very unfavourable if it cannot take place by the end of July.

(5) Kalamohi.—A few days after the benshan the mohi (rake) is passed once over the crop to sweep it into the mud and water.

(6) Bacha (weeding).—About eight to fifteen days after the kalamahi' should be done in August.

(7) Kela.—At the time of weeding, shoots are transplanted to the portion of the filled where they are scanty from places where they are growing to thick.

(8) Darbacha.—The second weeding by them, who can afford it. Fifteen days to a month after the kela.

(9) **Balunga or Jotabacha.**—The weeding out of balunga or eared paddy. Balunga consists of shoots from the crops of former years, useless themselves and choking the growth of the new plants. On high land, transplantations must be resorted to eradicate the balunga.

(10) **Harvesting.**—First the chota laghu, then the bara laghu, and lastly the sarad and bara dhan. The harvest continues from Kartik to Falguna (October to February). Laghu is reaped from October to December, sarad from December to February. To facilitate the harvesting, the crop is first levelled by a bamboo. The ears are then cut off and tied in sheaves. The khar (straw) and pal (leaves) are also made into bundles.

(11) **Carrying from the field, stacking, and husking.**

Transplanting is, it is said, performed chiefly for the eradication of balunga. It is required more on high than on low lands. Panichi and saura require transplanting almost every year, medium and bara laghu once every three of four years, and low champa very rarely. A man can transplant about three gunts in a day.

Khar and Pal.—An acre of average quality paddy produces about two bharans or 1,000 bundles of khar. Two bharans of khar sell for about one rupee. The pal produced in the same land sells for about 8 annas.

Cost of cultivation.—Take good nandi or champa land paying Rs. 3 rent an acre and consider the high cultivation described above.

Operation 1. Ploughing.—Suppose (1) a plough and bullocks plough in one day three-fourths of an acre; (2) the hire of plough, ploughman and bullocks for a day is $3\frac{1}{2}$ annas; the rate varies from about 3 to 4 annas; (3) the land is ploughed five times, cost Rs. 1-7.

Operation 2. Mannuring.—Suppose (1) four bharans used; (2) four bharans can be purchased for 8 annas. Cost & 8 annas.

Operation 3. Sowing.—Suppose (1) labour included in operation 1; (2) 10 gounies of seed used; (3) price of 10 gounies of seed is 12 annas. Cost 12 annas.

Operation 4. Benshana.—Included in No. 1.

Operation 5. Kalamohi.—Cost trifling, say one anna.

Operation 6. First weeding.—Suppose (1) 15 men are employed for one day; (2) rate of wages in the weeding season is 2 annas. Cost Rs. 1-14-0.

Operation 7. Kala.—Included in No. 6.

Operations 8 and 9. Darbacha and Balunga bacha.—Suppose (1) five men employed for one day; (2) rate of wages as above. Cost 10 annas.

Operation 10. Harvest.—Suppose (1) 15 men employed for one day; (2) rate of wages as above. Cost Rs. 1-14-0.

Operations included in No. 11.—Total cost about Re. 1.

			Rs.	a.	p.
Total cost of the 11 operations	...	...	8	2	0
Allow 10 per cent interest and profits	...	...	0	13	0
Rent...	...	...	3	0	0
Total	...	...	11	15	0

(say Rs. 12).

From total cost value of khar and pal, remainder Rs. 10-8-0. The present normal price of paddy is 16 gounies to the rupee. At this rate the produce of good champa or nandi land must according to the above calculation, in order to pay the former 10 per cent outlay on the expense of the field operations, and to yield Rs. 3 rent per acre, bear a produce of 2 bharans and 8 gounies.

Next to consider the less elaborate cultivation of the smaller raiyat, yielding a lesser out-turn. Little hired labour is used. The raiyat and his family perform most or all of the work with their own hands and with their own implements and cattle. In the following estimates, I take, however, the money value of the labour of the raiyat and his cattle, and of the use of his implements at the price for which he could sell them in the market :—

Operation 1.—Suppose that the land is ploughed four times only and make use of the other suppositions employed before. Cost Re. 1-3.

Operation 2.—Suppose the raiyat manures one-quarter of his land and that half the manure he procures from his own cattle and as "gara," and that for the other half he purchases half a bharan of khata at the same price as before. Cost is 1 anna.

Operation 3.—As before, 12 annas.

Operation 4.—Included in No. 1, as before.

Operation 5.—As before, 1 anna.

Operations 6 and 7.—As before, Rs. 1-14.

Operation 8.—Not usually attempted.

Operation 9.—Labour of one man for a day, cost 2 annas.

Operation 10.—As before, 1-14.

Operation 11.—As before, Re. 1.

Operations 1 to 11.—Total cost, Rs. 6-15 (say Rs.7).

Rent Rs. 3.

Total Rs. 10.

From total cost deduct Rs. 1-8 for price of khar and pal, remainder Rs. 8-8.

According to the above calculation, and on the same supposition regarding prices as before, an acre of good nandi or champa (ekfasli) must yield an outturn of 1 bharan and 58 gounies to repay the raiyat for the labour of himself and family and the use of his tools, and at the same time to pay a rent of Rs. 3.

The Millets, Mandia and China.—Mandia is grown on high, inferior, light, and sandy soils, paying low rates of rent. It is to be found as a rule with inferior biali and with kulthi. The high villages in the north of the pargana abound with it. The largest stretch I have met is in village Bhubanpur close to Baliana bazar on the pilgrim road). It is also extensively grown on the higher inferior lands of the centre of the pargana. It is sown in May if the rainfall is favourable, ripens in August and September. It requires ploughing four to seven times, and is both sown and transplanted. Under favourable circumstances the produce amounts to 20 gounies. The present price is 10 to 11 gounies per rupee.

Kakari Mandia is a variety. It receives its name from the idea that it derives sufficient moisture from the dew. I have, however, always found it artificially irrigated. It is a winter crop, being sown about the end of February and reaped about the middle of April. It is not of frequent occurrence.

China is grown in small quantities as a rule on low sarad soils in the neighbourhood of water. It is sown in November and December and reaped in March and April. In the absence of rain artificial irrigation is required. If the season be unfavourable the "jal bhan" must be repeated about four times. The land requires frequent ploughing. I have been told as many as ten times. On good land the produce amounts to about 16 gounies. It is not sold in the market. The cultivators eat it thrown into boiling water and seasoned with salt. It is not regarded as food for bhadralog.

Pulses—Mugh, kulthi, arhar, biri, chana, and khesari.

Mugh is grown in large quantities all over the pargana on low and medium-level paddy lands. It is planted as soon as the drying up of the rain water permits, and is harvested in March and April. A rainy cold weather is a good mugh season. The best crop is produced on low paddy lands. Under favourable circumstances the outturn amounts to 20 gounies. The grain is esteemed by all classes.

Kulthi is largely grown as a second crop to biali and chota and medium laghu. The best kulthi is produced on riverside lands and round the village site. The worst is grown as a second crop to inferior biali and chota laghu, or as an ekfasli crop on still inferior high soils. Immediately after the biali is cut the land is ploughed for kulthi. It must be ploughed seven or eight times. The moha is then passed over two or three times. The seed is then sown and the moha again passed over. The crop is cut in February or March. It is a somewhat hazardous crop, and it is therefore difficult to give the outturn of an average year. If the rain is not timely, the crop is liable to great loss, or even total destruction. The best outturn is harvested on riverside lands, and in a favourable season amounts to 40 gounies. In dofasli lands near the village site the produce per acre does not exceed 25 gounies. The average price is about 12 gounies to the rupee.

Arhar is not extensively grown; its cultivation is confined to poor soils. I have met with nothing to compare with the fine arhar crops of Central Bengal. It is to be found with mandia and inferior kulthi. It is sown in July and reaped in November. The price is 4 to 5 gounies the rupee.

Biri (kalai) is not frequently met with. It is grown as a second crop to good biali and laghu land. China is also but little grown. It is cultivated under the same conditions as the better class kulthi. The produce is about 10 gounies the acre; the price 6 to 7 gounies the rupee.

Khesari, a small seed-grain rarely met with. The circumstances of its cultivation are similar to those of china.

Oil-seeds—Gaba, rasi, sarisa, peshi.

Gaba (castor-oil) is grown in considerable quantities on the riverside and round the village site. It is sown and reaped with the other winter crops. The produce under favourable circumstances amounts to about 20 gounies per acre. The present price 6 to 7 gounies per rupee. The oil is used for illumination*.

*The plant, especially the red variety (lala gada), is used by the native kabirajes. They give it internally, and use it externally in the cases of inflammation.

Rasi is cultivated in considerable quantities on good soils in the neighbourhood of water. It is sown in February and reaped in April and May. The plant requires a plentiful supply of water, and where the rainfall is insufficient, must be irrigated artificially. In a unfavourable season the artificial irrigation must be repeated four times. A field of 10 gunts requires

about two bharans of "khata". From good land the produce is about 15 gounies the acre. The present price is about 7 gounies per rupee. It is not much sold. The cultivator use the oil themselves for food and for rubbing on their bodies.

Sarisa (mustard) and peshi (linseed) are grown on the best dofasli soils, both river site and village site. They are sometimes sown together with kulthi, sometimes alone. The circumstances of their cultivation are precisely similar to those of kulthi. Sarisa is not extensively grown, but peshi is a common crop.

VEGETABLES.

Baigun (brinjal) is grown in the village on dofasli and round the village site and by the riverside. It requires a good soil and the neighbourhood of water. It is sown on high land in June, and bears fruit from the middle of August to the end of November. The price in the bazar is, 1 to 3 pice for a Cuttack seer.

Saru.—Several vegetables are included under this head. They can be grown on any good soil in the neighbourhood of water. They are commonly met with on biali dofasli lands and in the village. They are sown in April and May, and do not ripen until February or March of the following year. After biali land has been cultivated with saru, it must be sown for two years with the ordinary dofasli crops before it is again fit for vegetables. The principal kinds of saru are ghanthira, kiajari, sankha, and teli. The last is grown only on riverside lands. They require to be watered daily. Ghanthira is the best sort. From January to March it sells from one pice a bissha of $1\frac{1}{4}$ Cuttack seers. From March to June the price is two pice a bissha. The produce per gunt is 20 to 30 bissas.

Kharra is a small vegetable with red stalk and bluish-green leaves. They are eaten cooked with rice. It is sown about March and cut after one month. It requires good soil near water. It is not extensively cultivated.

Mulo (radish).—Grown only on new soils on the river bank. It is sown in November and December. Seven or eight roots sell for a pice.

Sag.—Grown in the village by the side of water. Requires watering every evening. There are two main varieties—koshla sag and neutia sag; the former is grown in the cold weather, the latter in May and June. The cultivators eat it themselves and make presents of it to the bhadralog. It is not a common object of sale.

Boital (pumpkin).—Grown on thatches of houses, on riverside lands and on light soils in the neighbourhood of water. Pumpkins trained on the thatch are planted in June and ripen after two months. Other varieties are sown in November to January and ripen in April and May. The price for a pumpkin varies from 4 to 10 pice according to the season.

Nau (white calabash).—Grown under the same conditions as pumpkins. Price also the same.

Alu (yam).—Grown in the bari as a rule under the partition hedge or *bhera*. Not as a rule sold. When sold, price is about 4 pice per bissha of $1\frac{1}{4}$ seers. It is sown as soon as possible in June and ripens in the following February and March. The same plant yields for two or three years, the last year's yield being the best.

MISCELLANEOUS.

Aku (sugarcane).—Extensively grown all over the pargana with the exception of the villages in the south-east. Requires high land with good soil and facilities for irrigation. Usually grown on riverside lands and on biali and laghu lands in the vicinity of the village site or near tanks. The cultivation is to be seen at its best in mauza Luna in the centre of the pargana. The same land cannot continually produce sugarcane; a rotation is necessary. Laghu or biali as a rule with a winter crop is grown for three to five years between each cultivation of sugarcane. The mukaddam and raiyats of Keonjar state that average price of the produce per acre is Rs. 150; this is the price of a little more than 20 maunds of gur. The Kotdesh kanungo states that his personal experience of high class sugarcane cultivation is that the cost amounted to Rs. 225 an acre, and the price of the produce Rs. 227-9. It is universally stated that the crop does not yield the cultivator a profit if you calculate in the cost the price of his labour and that of his family. The gross produce, however, is of great value in comparison with that of ordinary crops and the labour being his own, the raiyat is enabled by extra industry to pay his rent and satisfy his mahajan. The following is an account of the operations involved in high class sugarcane cultivation :—

- (1) A drain is made round the field.
- (2) Pits are dug in the ground, 2 haths in diameter, $1\frac{1}{2}$ haths in depth, and 2 haths apart. The earth is piled up by the side of the pits. About 1,250 pits are dug in an acre. This operation is performed early in November.
- (3) The earth taken from the pits is left to dry for 15 to 20 days. It is then replaced.
- (4) The land is thoroughly ploughed up. Including the ploughings now described and the ploughings alluded to below, a total number of about 60 ploughings is required, ploughings commence as soon as the earth is replaced in the pits. The land is ploughed three or four times, left a few days, then again ploughed three or four times, and so on. This continues until March.

(5) The land is then manured with khata, irrigated once (pani maran), and then ploughed two or three times over. With sufficient water within fifty yards, eight men can irrigate an acre in two days.

(6) The cuttings are then placed in the ground. They are four to six inches in length, and are placed end to end in lines.

One kahan of cuttings is required per gunt. They cost Re. 1. Total cost of cuttings is therefore Rs. 25.

(7) The mohi is then passed over the land.

(8) Fifteen days after planting the field is sprinkled by hand from gharris.

(9) Weeding (bacha).

(10) Fencing. Cost of material about Rs. 2.

(11) Andhi—Scraping away with the hands the earth over the cuttings until the young shoots appear. This process takes place in March and April.

(12) Manuring with piria (refuse left after pressing oil-seeds).

A little of this manure is sprinkled by hand round each shoot and then covered with earth. Cost of manure is about Rs. 3.

(13) A few days after the manuring the land is again irrigated (pani maran.)

(14) Troughs are then made with the kodali between each line of shoots. These troughs are called koras.

(15) The irrigation and trough process is repeated about eight times at intervals of 8 to 15 days. This brings the cultivator to June.

(16) After the leaves have appeared, piriya is again applied in the same manner as before but in greater quantity. Cost is about Rs. 6.

(17) If the rainfall is insufficient, fresh irrigation must continually be resorted to.

(18) Chakiguria—This operation is performed in July or August. The leaves which have now grown long enough for the purpose, are wound round the young cane to protect it from insects and the weather.

(19) Khariaband—Performed in the middle or end of August. Fresh leaves wound round the cane.

(20) In September a third and abundant manuring with piriya. Cost about Rs. 6.

(21) Bherabunda—Performed in October. Several canes bound together with their leaves round them again for protection.

(22) Irrigation proceeds all through this period whenever the rainfall is insufficient.

(23) Harvest in February or March.

(24) Pera (pressing)—This is done with a press known locally as kai or gandi. The village carpenter supplies the kai with its appurtenances for about Rs. 5. Five or six raiyats club together for the pressing. Eight bullocks working two at a time will press the produce of a man in about 25 days. The kai consists of three large upright wooden screws working one into another. The central screw is fixed; the two outside screws revolve in opposite directions. The whole stands on a wooden frame. Below the frame and let into the ground is a receptacle connected with the frame by a pipe. The whole is turned by bullocks. A man sits on either side of the instrument and thrusts in pieces of split cane between the fixed and the revolving screw. The strips of split canes are wound into a rope, to which the operator is always adding a fresh strand. The strips of cane, after having been sent through the press in one direction by one man, are returned in the reverse direction by the other. Each piece is thus pressed twice. The juice runs through the pipe into the receptacle below.

The total cost of cultivation, apart from labour and the of hire bullocks and ploughs amounts to—

						Rs.
Piriya	...	...	...	...	...	15
Khata	...	...	...	...	...	6
Cuttings	...	...	...	...	...	25
Fencing	...	...	...	...	...	2
Kai	...	...	...	...	...	5
Total						53

Cotton (kapas).—Cultivated in considerable quantities as a winter crop. Usually grown on good biali or laghu land in the neighbourhood of water. The rotation is three years of ordinary dofasli crops and one year of cotton. It is sown about November and ripens in April and May.

Plaintain (kadali).—Grown extensively on river side lands, and less frequently in the homestead chaks. Planted in November, and first bears fruit in the second following April to June. The plant bears fruit for three seasons. The produce of the second year being the best.

After the third season the land is ploughed up, and must be cultivated for five or six years with paddy and bazi crops before it is again fit to bear plantains.

Palang.—These trees are largely grown in pargana Kotdesh for the sake of the oil which is crushed from their berries and largely used for illuminating purposes. The plantations form a striking and beautiful feature in the landscape. A tree at full fruit-bearing age produces about 20 gounies of berries in course of the season. The present price is about 15 to 20 gounies to the rupee. The trees are grown chiefly by the riverside and on high lands near the village site. The young tree is transplanted when two to three feet high. It does not begin to produce fruit until ten years from the season of planting. It continues to bear fruit until it is twenty to thirty years of age.

Tobacco.—Grown almost exclusively on riverside lands. Requires elaborate cultivation and constant sprinkling by hand. It is some times cultivated "bhag" on mukaddami lands and sometimes on raiyati rent-paying land. Where the land does not pay a fixed rent, the rate exacted is very high, amounting to 4 annas a gunt or Rs. 6-4 an acre. In Mouza Attanta the mukaddam's bhag was said to amount to $2\frac{1}{2}$ joris, and there the whole produce to 5 joris a gunt (24 dasti padika). A jori consists of a pair of strings of dry plants. Each string consists of 50 plants suspended on a strip of screw pine leaf. The price of a jori is about 6 pice, and therefore the money value of the produce of an acre amounts to Rs. 25 by 5 by 6 pice, or Rs. 11-11-6. The crop is grown in the cold weather.

Pan.—Grown in small quantities on the high lands of a few villages.

The pan garden is styled "pan baraj." A very high rate is charged for land grown with pan, amounting to Rs. 9 and Rs. 12-8 an acre. This is in the nature of a tax on the cultivation of the crop, for any high land in the village site will do for the purpose.

In the neighbourhood of pan is usually found jukar, a plant of which the long slender stems are used for training the pan plants. The rent imposed on this land is also very high, amounting, as a rule, to over Rs. 5 an acre.

Khajoor Trees.—Date palms are cut and the sap collected by men of the Sewal caste. Some of these persons live entirely by the profits of their caste work; others are also cultivators of land. They are to be found in many villages as chandna, thani and pahi raiyats. They make an arrangement with the authorities, get a patta, and produce it before the mukaddams of the village with whom they make an arrangement as to rent. The sum fixed on is usually one to two pice, more than $1\frac{1}{2}$ pice is rarely paid.

Mango topes.—There are many fine mango topes in the centre of the pargana; further north they are not so common, and in the south they are rare. With the exception of the topes at Nimapara, there is not a single good mango orchard in the portion of the pargana surveyed this year. At the time of the last settlement a rent of two pice was fixed on all fruit trees. The Special Commissioner subsequently cancelled the arrangement and allowed all orchards to be held rent-free. Now orchards are cultivated under a particular tenure. Until the fruit trees grow to a considerable size, the land is capable of bearing the ordinary crops, and is in practice cultivated with them. The land is made over to a raiyat, who engages to plant and look after the orchard. In return for his services he is allowed to cultivate the land rent-free on the condition that he is to make the land over to the mukaddams as soon as the trees have grown up. In this way new orchards have been planted out in many villages. In Mouza Poorna Sasan 20 to 25 mans of land have gone out of cultivation in this manner.

System of agriculture according to Mr. Walsh's notion of the southern pargana.

28. Mr. E. H. Walsh writes thus of the system of agriculture followed in the southern parganas—

SYSTEM OF AGRICULTURE.

"30. The greater part of all three parganas under report is cultivated with different kinds of rice. The statement of the total area of each kind of crop has not been compiled, but is available from the milan khasras for the four main classes, sarad, biali, dalua, bazefasal, and dofasal. Though in the milan khasra, biali has been shown separately, biali land is almost always dofasal, as the biali, also known as "sathika" from its taking sixty days to come to maturity, is reaped in Bhadra, August-september, leaving the land free for rabi crops. The crop generally sown after the biali is reaped is either birhi, in which case the land is known as "bili birhi" or kultha, in which case the land is known as "bili kultha." The former land is the better of the two, as birhi requires a better soil than kultha. In addition to birhi and kultha, the two most usually grown, the following crops are also grown after biali is reaped:—mung, barguri, mustard, cotton and castor-oil, though the latter is more commonly grown on nadipatu land on the banks of rivers.

"31. Sarad, the principal kind of dhan grown, is divided into three main classes—bara, majhla and laghu, although numerous varieties are comprised in each class.

"32. The distinction between these three classes as regards the land on which they are grown depends on the amount of water which they require.

Thus bara dhan is sown on land with most water, as low land, old river beds, and is reaped in December and January when this land dries, and is therefore later than the other two classes; majla is grown on land where there is a less depth of water, and come to maturity earlier than bara, and is reaped when this land is dry in November and December; laghu again requires less water than majla, and is therefore sown on higher land and reaped earlier when that land dries in September and October. In some cases laghu is sown on biali land, after that crop has been cut, if the tenants see that there is sufficient water on that land.

"33. The difference in the class of land on which these three main classes of rice are respectively grown makes a soil classification by crops possible and less liable to error than one based on the appearance or level of ground alone, which is liable to be modified by numerous circumstances.

"34. The better class of sarad land also bears another crop, which is sown after the sarad is reaped, and this, together with the better biali land noted above, is therefore dofasli.

"The crop sown on sarad land is generally—

"(1) Kaltha, sown in October or November on land on which early rice has been grown and reaped in February or March.

"(2) Kalai ditto ditto.

"(3) Mung, sown in January or February and reaped in March and April.

"(4) Chana, sown in December or January and reaped in March.

"(5) Cotton (kapas), sown in November and December, reaped in May or June. Other crops are also sometimes grown, but those given above are the principal ones.

"35. Another rice crop largely grown in Rahang is dalua, which shown on land that has been submerged as soon as the water leaves the land sufficiently to allow of its being 'puddled' with the plough. The date of which this crop is sown therefore varies with the level of the ground and the rainfall or flood of the preceding session being dependent on the date on which the land dries. Dalua is divided into two main classes.

"(1) Pia

"(2) Kasunda

"Though there are varieties of both.

"36. This crop is sown in distinction to sarad which is generally transplanted from seedlings previously grown. There are in Rahang mauzas, (e.g. Samang, Samang-Bhartipur, Taljung, Kanchi and others) in which the greater part of the village is, under this crop, owing to their annually inundated.

"37. In addition to the above crops, the following are grown on special soils:—

"(1) Melons—On sandy lands in or near the beds of rivers, of lands that have become sandy from a breach in the river bank and consequent flood and deposit of sand. These are largely consumed in the hot weather when they come to maturity, and as they are frequently eaten in an ever ripe state, are a fertile source of cholera.

"(2) Tobacco.—This is grown on sloping land at the edge of river beds, on which there is an annual deposit of silt.

"(3) Castor-oil (Gab). Grown on similar land.

"(4) On homestead land.—

Baigun (Brinjal).

Holdi (Turmeric).

Potatoes.

Chillies.

Sag and other vegetables.

"38. The cultivation of pan or betel leaf is carried on in a group of villages in the centre of Rahang, forming together with the 'inkod' grass which is grown for the purpose of constructing the sheds ('barojes') to keep the pan from the sun's rays, the chief part of the cultivation of the village.

"39. The cultivation of this plant is peculiar. The trees when once planted will live for thirty or forty years if properly tended and pruned. The cyclone of November 1891, however, destroyed a large number of "barojes", together with the plants in them, one new plants have had to be obtained.

"40. Fresh earth is put on round the roots of the plants twice a month, and it is by this means that the plots of ground on which this crop is grown have risen to their present height. The age of a pan garden can be roughly estimated by its height above the surrounding land, and rise in this way about six inches a year.

"The earth for this purpose is dug from land adjoining the garden, and the hole thus made also serves as a reservoir for irrigation of the garden. The plants are watered four times a month, and manure of oil-cake (piriya) finely powdered is put round the roots once a month.

"41. The rate paid for this land is high, being for the best gardens Rs. 6-4 per acre, and this includes also the area required for growth of the inkod grass and for the water holes, and the tankidars of these villages are consequently prosperous.

"42. Rotation of crops is not followed, except in the case of sugarcane which is a crop very little grown in these parganas. In Rahang it has only come under my notice in two villages—

Dugal and Indipurduli.

"In the case of sugarcane the rotation observed in the following:—

"1st year	...	...	...	...	Sugarcane,
"2nd "	...	...	...	...	Mandua,
"3rd "	...	...	...	...	Kalai,
"4th "	...	...	...	...	Cotton.

after which the cultivation of sugarcane commences again. Manure is not very much used. The kinds in use are—

"(1) Cowdung, which is dried in small lumps and then reduced to a fine powder.

"(2) Ashes.

"(3) Khata or mud dug from the bottom of a tank or ditch, which is also dried and broken up fine.

"(4) Oil-cake, 'piriya' being the refuse of mustard-oil and pulang oil. This latter is the form of manure used in the cultivation of pan or the betel-vine.

"43. In addition to the above crops obtained by direct cultivation, there is to be taken into consideration the produce of trees, the principal of which are cocoanut palms.

"Palang trees, from the berries of which oil is extracted which is the soil almost exclusively used in Orissa for lighting purposes.

"Mangoes.

"Date palms rented for toddy, from all of which incomes are derived, and which are therefore the subject of assessment".

THE COST OF CULTIVATION

29. There are only two points in Mr. Nathan's note on which I venture to offer some Comments. They are the cost of cultivation and the outturn of crops.

The cost of Cultivation.

Mr. Nathan, it will be seen, puts the costs of cultivation of rice land at Rs. 8 when carried on entirely by hired labour, and Rs. 7 when carried on by the raiyat himself. One of the points to which attention was directed at the time of assessment work was investigation of cost of cultivation, and estimates were prepared by various officers. I find these differ in a very extraordinary way from officer to officer and from pargana to pargana.

Thus the following appear.

Name of Officer	Pargana.	Cost of cultivation.			Cost of implement to be used over 5 acres to last for 4 years.		
1	2	3			4		
Babu Balmukand Kanungo ...	Kotdesh ...	4	2	...	2	13	...
" Shyama Charan Sen ...	Athaisi ...	3	7	6	2	14	3
" Jotendra Mohan Singh ...	Damarkhand ...	3	5	...	2	4	...
" Jagadis Chandra Lahiri ...	Kanman ...	4	7	6	3	7	...
	Kurilo ...	6	15	...	5	12	...
	Astrang ...	6	4	...	4	2	...
" Ramkanai Pal ...	Oldhar ...	3	4	...	2	13	3

The cause of variation is partly that cultivation is less elaborate in some tracts than others, partly that items of expenditure have been omitted. Thus the officers marked * have left out the cost of harvesting and all have omitted the cost of carrying, stacking and husking. Harvesting cannot be done for much less than Re 1-8 per acre, and the other operations cost at least annas 12. If these be added, and it be borne in mind that Mr. Nathan's estimate is for the better class of land paying Rs. 3 of rent, it will be seen that his estimate of Rs. 7 does not much exceed to mark.

30. The average cost of tools may be assumed to be Rs. 5 spread over four years, and making an average addition of annas 4 to the annual cost of cultivating one acre, some of the

tools last for more than four years, others for less, while some require annual repairs and others annual renewing. The average description may be taken to be 25 per cent. The tools wanted are:—

	Rs.	a.	p.
1 Plough costing ...	1	6	0
1 Mutticks (kuri) ...	1	12	0
1 Spade (kanka) ...	0	14	0
1 Axe (kurali) ...	0	12	0
1 Seythe (da) ...	0	2	0
Rope ...	0	2	0
Total ...	5	0	0

The cost of cultivation, as I should gather from a comparison of the estimate and from numerous enquiries, is as follows :—

			Rs.	a.	p.
Ploughing including bewshan	...	...	1	8	0
Manure	...	...	0	4	0
Seed grain	...	...	0	12	0
Weeding and miscellaneous minor operations	...	...	1	8	0
Harvesting	...	...	1	4	0
Storing	...	...	0	8	0
Proportionate cost of tools	...	...	0	4	0
Total	...	...	6	0	0

31. Now of the above items of expenditure, the raiyat in cultivating occupation of his own land supplies everything but the cost of weeding and harvesting, and as he lends a hand in these operations, we may assume that the hired assistance he requires costs him Re. 1 for each operation or Rs. 2 for the whole. Another Re. 1 will represent the value of the seed-grain which he has stored from the previous year's crop and the cost of his tools Rs. 3, will thus be the actual cost in addition to the value of his own labour.

EXTENT OF CULTIVATION

32. The total area of the temporarily settled parganas is 651, 291 acres. Of this, 463, 802 acres are cultivated, 33,561 acres are culturable, and 153,928 acres are unculturable. A copy of the milan khasra statements by thanas is given in Appendix V. As from a Collector's point of view the pargana statement has most interest, I extract from them the following statements which show for each pargana the proportional percentage of cultivated, culturable and unculturable land.

NAME OF PARGANA				Percentage of cultivated to total area	Percentage of culturable	Percentage of unculturable
1				2	3	4
1. Antrodh	...	...	...	79.1	7.7	13.2
2. Astrang	...	...	...	49.4	23.8	26.8
3. Banchas	...	...	...	76.2	6.8	17
4. Chowbiskud	...	...	...	58.24	5.57	36.29
5. Damarkhand	...	...	...	68.9	14.9	16.2
6. Khodar	...	...	...	69.4	8.8	21.8
7. Khotdesh	...	...	...	79.4	2.1	18.5
8. Kotrahang	...	...	...	82.3	2.5	15.5
9. Kurilo	...	...	...	62.5	15.5	22
10. Lembai	...	...	...	78.3	4.1	17.6
11. Matkatpatna	...	...	...	35.5	6.3	58.2
12. Oldhar	...	...	...	46.3	3.7	50
13. Paschimduai	...	...	...	82.5	2	15.5
14. Purbaduai	...	...	...	79.2	5.1	15.4
15. Rahang	...	...	...	75.5	1.8	22.7
16. Serai	...	...	...	75.5	5.3	19.2
17. Tapa Kanman	...	...	...	56	13.4	30.6
18. Athaisi	...	...	...	38.6	8.3	53.1
Total				7.12	5.1	23.7

33. The parganas in which the percentage of cultivation most exceeds the average are Paschimduai and Kotrahang, which are both well protected by embankments from river flood. Kotdes, which is partially protected, comes next to Purbaduai, which follows Kotdes; it must be said that the figures do not truly represent the present situation, and that since the first survey was made much land has been thrown out of cultivation on account of the calamitous floods of recent years. Parganas Antrodh, Banchas, Lembai, Rahang and Serai are partly protected by embankments, partly exposed to flood. In pargana Serai some of the lands shown as cultivated have gone out of cultivation.

Of the parganas in which the percentage falls below the average, Damarkhand, Khodar, and Kurilo run the average close. For the low percentages obtaining in other parganas there are special reasons. Thus in Matkatpatna, which has the lowest figures of all, and in Athaisi, which is not much better, about half of the entire area consists of a belt of shore sand varying from 2 to 4 miles in depth in which cultivation is a physical impossibility. The same reason applies to Oldhar and in a lesser degree to Tappa Kanman, Astrag and Chowbiskud. In all these four last parganas there is also considerable liability to inundation either from river or salt floods.

Of the thanas, Pipli which includes Kotrahang, Lembai, Paschimduai and Kotdesh is most highly cultivated. The percentage is 79. Thana Gope, which includes Athaisi, Astrag, Oldhar Matkatpatna as well as Antrodh and Banchas is the least highly cultivated. The percentage is 62 as against 71 in thana Puri, which contains Rahang Chowbiskud and Serai.

34. The percentage of land that has been shown in the milan khasra statements as cultural is exceedingly small, only 5.1 per cent for the subdivision. This is probably an under statement. It may be expected that a large slice of the 24.7 per cent entered as unculturable will gradually be reclaimed as the increase of population presses harder on the resources of soil. It is noticeable that in the 5 parganas situate in the north-east corner of the district, viz.—Astrang, Damarkhand, Kurilo, Tappa Kanman and Khodar, the highest percentages of culturable are shown. There is a considerable amount of low scrub jungle in these parganas, and much of this has probably been entered as culturable. The differentiation between culturable and unculturable obviously depends much on the individual opinion of the Officer in charge of the survey party. The Amins working in the 5 parganas was probably working under the supervision of one and the same officer.

EXTENSION OF CULTIVATION SINCE LAST SETTLEMENT

35. There are two sources from which the extension of cultivation since last settlement can be estimated. The first and less reliable guide is a comparison of the survey records of 1937-41 with the present millan khasra. More reliable information is to be obtained by comparing the assessed areas of estates according to the records of the last and of the present settlements. The survey record of course refers to a larger area to the whole of the temporarily settled parganas. The settlement records refer exclusively to temporarily settled estates situated within the temporarily settled parganas. I make the former comparison by parganas and the latter by completion blocks.

The survey comparison gives the following results :—

Name of Pargana	According to Survey of 1837-41.		According to present Survey.		Percentage of increased cultivation	Proportion of present cultivated to total area.
	Total area in acres.	Cultivated area in acres.	Total area in acres.	Cultivated area in acres.		
1. Antrodh ...	33,926	26,352	34,054	26,909	2.1	79
2. Astrang ...	5,594	2,728	5,743	2,839	3	49.4
3. Banchas ...	12,329	14,294	19,413	14,804	3.5	76.2
4. Chowbiskud ...	67,498	20,341	64,220	37,484	84.2	58.24
5. Damarkhand ...	18,767	12,356	18,876	13,012	5.3	68.9
6. Khodar ...	17,406	11,664	17,574	12,210	4.7	69.4
7. Kotdesh ...	116,194	86,020	116,296	92,455	7.4	79.4
8. Kotrahang ...	35,728	17,913	35,666	29,346	63.8	82.3
9. Kurilo ...	12,806	7,033	12,916	8,081	14.9	62.5
10. Lembai ...	57,550	30,807	57,574	45,161	46.6	78.3
11. Matkatpatna ...	6,915	2,203	6,709	2,383	8.1	35.5
12. Oldhar ...	26,331	1,875	26,319	12,195	550.4	46.3
13. Paschimduai ...	16,559	5,613	16,650	13,642	143	82.5
14. Purbaduai ...	20,802	4,283	20,888	16,559	286.6	79.2
15. Rahang ...	95,479	67,480	96,150	72,503	6.9	75.5
16. Serai ...	43,308	23,356	43,091	32,526	39.3	75.5
17. Tappa Kanman ...	4,208	2,024	4,163	2,335	15.8	56
18. Athaisi ...	34,289	11,975	33,363	12,893	7.7	30.6
Total ...	631,950	343,320	629,665	447,338	28.4	71

36. It will be seen that the total areas show very little variation on last settlement, so we may be certain that the same areas have been included under the pargana name, and there has been very little variation of boundary. Column 6 shows the percentage of increase, while column 7 has been added to show the level that has been reached as a result of extension.

The general increase amounts to 28.4 per cent. It has been very inconsiderable in 11 parganas—Antrodh, Astrang, Banchas, Damarkhand, Khodar, Kotdesh, Kurilo, Matkatpatna, Rahang, Tappa Kanman and Athaisi—while in seven parganas—Chowbiskud, Kotrahang, Lembai, Serai, Oldhar, Purbaduai and Paschimduai—it has been inexplicably large. In six of the stationary parganas viz., Antrodh, Banchas, Damarkhand, Khodar, Kotdesh and Rahang the cause might seem to be that they had already at the time of last settlement attained a very high standard of cultivation, and one might be disposed to attribute the absence of extension in the remaining five viz., Astrang, Kurilo, Tappa Kanman, Athaisi and Matkatpatna to their unfavourable situation. They are all in the north-east of the District and are subject to sand drifts and salt tide. Similarly it might be explained that the extraordinary increase of the cultivated area in parganas Oldhar, Paschimduai and Purbaduai was due to the fact that about the time of the previous survey, extensive area had been thrown out of cultivation by river flood and have since been reclaimed.

37. A comparison, however, of survey figures with settlement figures renders the distribution of areas in the former exceedingly doubtful. The settlements were made within a year or two of survey. They were made by responsible officers working on the spot, and the mistakes of Survey Amins were cleared up before assessment was made. The settlement record shows a very different state of things to that shown by the survey. I give below by completion blocks a comparison with last settlements, and add a column to show how widely the results differ from the figures of the previous settlements.

NAME OF BLOCK	AT LAST SETTLEMENT		AT PRESENT SETTLEMENT		Percentage of increase in assessed area.	Percentage of present assessed area to total area.
	Total area in acres.	Assessed area in acres.	Total area in acres.	Assessed area in acres.		
Kotdesh	121,325	78,322	123,299	97,868	25	79
Khodar	25,896	11,574	25,951	15,934	38	61
East Athaisi and Damarkhand ...	34,972	15,297	38,955	20,239	33	52
West Athaisi and Matkatpatna ...	16,798	4,711	16,776	5,626	19	33
Lembai	54,925	35,131	53,123	44,327	26	83
Kotrahang	27,632	20,005	28,041	23,305	16	83
Paschimduai... ..	12,050	8,535	12,503	10,341	21	83
Purbaduai and Oldhar	31,568	13,109	31,671	16,597	27	52
Rahang	62,215	48,100	68,764	54,540	13	79
Serai	41,653	25,398	40,310	31,384	24	76
Chowbiakud	43,345	23,990	56,570	30,873	29	55
Banchas	12,577	7,818	12,742	9,194	17	72
Scattered Estates	14,199	10,451	14,558	13,043	25	...
Total ...	499,155	302,441	523,263	373,321	23	71

38. The settlement figures are much more reasonable and much more intelligible than the survey figures. While they show a total increase of 23.45 per cent, not differing widely from the total according to survey records they distribute the extension much more evenly over the whole district. The increase does not fall

below 14 per cent nor rise above 38 ; whereas according to survey records it ranges from 2 per cent to 550 per cent. The parganas in which there has been least increase have been West Athaisi, Matkatpatna, Banchas, Rahang, and Kotrahang. These, except Kotrahang, are parganas in which survey records also showed little advance. It is worthy of notice that in Kotrahang, one of the first parganas to be assessed, a considerable area lying fallow, but culturable, was assessed to rent by the Settlement Officer of 1837. The parganas in which the extension is notably above the average are Khodar, Kurilo, Tappa Kaninan, Astrang and Damarkhand. The area available for reclamation in all those parganas was extensive.

At last settlement three-fifths of the total area of the temporarily settled estates was brought under assessment. The proportion has now risen to over seven-tenths, and, as has been stated in a former section of the report, of the remaining three-tenths only about one-sixth is capable of reclamation. The reclamation of new lands during the 60 years of the last settlement was a prolific source of advantage to zamindars and proprietary tenure-holders. In this district it was almost the sole cause of the increase of assets, which has rendered the present enhancement of Government revenue possible. This source of increase has now almost been exhausted, and for at least 15 years of the new settlement proprietary income and estate assets must remain practically stationary.

COMPOSITION OF UNASSESSED AREA AT LAST AND PRESENT SETTLEMENT

Composition of unassessed area at last and present settlement.

ment abstract of it gives the following results:—

39. In Appendix VII is given a statement showing by completion blocks the composition of the unassessed areas at last and present settle-

LAST SETTLEMENT			PRESENT SETTLEMENT		
Description	Area in acres.	Percentage.	Description.	Area in acres.	Percentage.
Unculturable waste (Nalaik padia) ...	156,000	31.3	Unculturable lands ...	83,800	16
Culturable waste (Laik padia) ...	4,400	.9	Jungle ...	13,800	2.6
Jungle ...	25,900	5.1	Old fallow ...	20,100	3.9
			Grazing reserve ...	19,900	3.8
			Cremation reserve ...	1,500	.3
			Current fallow ...	4,500	.9
			Tank and miscellaneous ...	1,200	.2
			Orchards ...	1,400	.3
Minha ...	3,400	.7	Minha ...	2,100	.4
Jagir ...	7,000	1.4	Jagir ...	1,700	.3
Total unassessed ...	196,700	39.4	Total unassessed ...	150,000	28.7
Total assessed ...	302,500	60.6	Total assessed ...	373,300	71.3
GRAND TOTAL ...	499,200	100	GRAND TOTAL ...	523,300	100

Nalaik padia appears to have been a description that was not applied with any pretence to accuracy. Nearly one half of the area must have come under cultivation during the 60 years of settlement. It is probable that in the same way, though to a much more limited extent, the present term "unculturable" will be found to be a misnomer. The small area as under jungle and orchard will be noted.

DISTRIBUTION OF PRINCIPAL CROPS.

4. Appendix IX gives thanawar the crop statement of the subdivision (the permanently settled parganas excluded). From them has been extracted the following statement, which shows for each pargana the proportionate distribution of the principal crops :—

Name of Pargana.	Percentage of early rice.	Percentage of winter rice.	Percentage of spring rice.	Percentage of Mandia.	Percentage of Kulthi and other pulses.	Percentage of Bari.	Percentage of Orchards,	Miscellaneous.	Percentage of double cropped area.
1	2	3	4	5	6	7	8	9	10
1. Antrodh	7.4	70.8	0.3	3.7	11.8	3.3	1.8	0.8	9.7
2. Astrang	3.1	82.2	...	4.4	4.1	4.3	1.3	0.6	3.5
3. Banchas	2.6	78.8	1.4	3.8	6.5	3.6	2.3	1.0	5.7
4. Chowbiskud	0.7	88	2.6	0.8	1.9	1.7	4.0	0.3	1.4
5. Damarkhand	5.8	74.4	1.7	3.0	8.4	3.7	2.0	1.0	6.2
6. Khodar	5.5	75.8	0.2	4.5	6.6	3.4	2.1	1.9	5.2
7. Kotdesh	8.4	66.3	0.1	0.4	16.7	4.2	3.4	0.7	18.7
8. Kotrahang	10.1	61.7	0.3	3.5	14.9	3.6	4.7	1.2	15.9
9. Kurilo	8.2	61.4	1.5	7.9	10.2	5.9	2.7	2.2	7.0
10. Lembai	6.2	74.4	0.2	0.3	12.3	3.5	2.5	0.6	10.8
11. Matkatpatna	4.0	72.4	9.1	2.0	4.6	3.1	2.2	2.5	2.7
12. Oldhar	2.4	48.1	31.7	1.6	2.9	2.2	1.9	1.2	2.3
13. Paschimduai	10.1	44.7	1.2	0.9	24.2	3.5	4.7	1.7	30.9
14. Purbaduai	4.2	78.5	1.5	3.1	7.8	3.1	1.3	0.5	6.6
15. Rahang	1.7	72.7	8.8	1.1	4.4	2.3	8.9	0.9	3.1
16. Serai	1.5	89.5	4.2	0.4	1.8	1.5	0.8	0.3	1.6
17. Tappa Kanman	7.9	68	0.3	6.1	6.7	5.1	1.8	4.1	9.2
18. Athaisi	6.1	69.6	4.8	4.7	7.2	3.4	2.4	1.8	6.9
Total	6.3	78.4	3.5	10.9	1.9	3.3	4.1	0.4	9.3

41. From the sub-divisional total, it will appear that winter rice (sarad) is grown on 78.4 per cent. of the total cropped area. The proportions of early (biali) and spring (dalua) rice are very small. The pulses occupy 10.9 per cent. of the total area. The two chief pulse crops are kulthi and mung. It is unfortunate that separate figures have not been prepared for each of these crops. My impression, gathered from touring about in the District was that the larger area is occupied by kulthi, but some Assistant Settlement Officers were of opinion that there is a preponderance of mung. In estimating below the food-supply of the District, I have assumed that the two occupy equal areas. The area grown with mandia is very small. Bari land and orchards cover 3.3 and 4.1 per cent. respectively of the cropped area. The area that is double-cropped is 9.3 per cent. of the whole. There is, however, considerable reason to believe that the area shown as double-cropped, and consequently also the areas shown as grown with mandia and pulse crops, are under-estimates. It has always struck me while on tour that a very much larger proportion than 10 per cent. of the cropped area was cultivated in the cold weather with mandia, kulthi, mung and biri crops, and this impression has been corroborated by statements of Assistant Settlement Officers and Kanungos, who say that, when survey operations were first commenced, that is in 1889-90, raiyats and zamindars combined together wholesale to conceal the double-cropped area, and for two or three years refrained from growing winter crops. It was fancied that the new assessment would be a "fasalbandi" assessment and that much was to be gained by concealing the "dofasli" lands. As the assessment has been made on the basis of existing palu rents, raiyats and zamindars have gained nothing by the fraud, but we have been deprived of data from which the true food-supply of the District can be estimated. Varying estimates of the true "dofasli" area have been given to me by different officers. Some have placed the proportion as high as 33 per cent. I do not think that it can be much less than 20 per cent.

42. Keeping these general remarks in mind, we may now look at the distribution of crops by parganas. The figures which disclose most striking divergence from the normal have been shown in the statement in italics and may be briefly noticed as follows.

43. Early rice is grown in largest quantities in parganas Kotrahang and Paschimduai. These are both protected parganas of very varied level, with a considerable proportion of high land. The parganas in which least liable is grown are Rahang, Serai and Chaubiskud, which are all situated round the lower reaches of the great rivers at the point where they enter the sea and

the Chilka. The lands of these parganas are low-lying and flat, and consequently not suited to the early crops.

44. Winter rice is the principal crop in all parganas, but the most striking preponderance is in the two parganas. Serai and Chowbiskud, which grow least biali. The proportion is lowest in Oldhar, which contains extensive dalua lands, and in Paschimduai with its larger biali and pulse-cropped areas.

45. Spring rice is grown in very small areas except in parganas Oldhar, Matkatpatna and Rahang. Oldhar pargana includes the Sar lake, a fresh water lagoon into which the Bhargovi discharges through its escape channels—the Bengai and Kanchi nadis. The lake is about 6 square miles in extent and very shallow, and a larger portion is cultivated with dalua in the winter months. In Matkatpatna the presence of the Kusbhadra river, which runs through the parganas, enables some dalua lands to be irrigated up to February or March, after which date the river becomes tidal. In Rahang dalua is grown chiefly on the Samong Pat, a large expanse of low-lying country north of Puri Town, which gets flooded annually from the Bhargovi through the Dhanua, East Kania and Athar nala escape channels.

46. Mandia is grown in comparatively small areas chiefly as a second crop. It will be noticed that it favours most the north-east parganas Khodar, Kurilo, Tappa Kanman and Astrang (included in the Khodar block) and Athaisi pargana which adjoins.

47. Kulthi, mung and biri, the principal crops of the pulse group, are grown chiefly on double-cropped lands and therefore most extensively in parganas Kotdesh Kotrahang and Paschimduai, which alone have exceptionally large double-cropped areas. The very small areas covered by pulse crops in parganas Chowbiskud, Oldhar, Rahang and Serai are as I have said above, probably less than actual.

48. Homestead lands and gardens are diffused, more or less evenly, over the subdivision. The areas are conspicuously small only in Chowbiskud and Serai. These two parganas are situated close to the Chilka. I have noted in the general description how the village sites in this tract consist of bare isolated mounds rising only a little above the general level.

49. Orchards, like homestead, are more or less evenly distributed. The area is noticeably small in Serai pargana. It is large in Chowbiskud because there is a large tract lying between the cultivated land in the heart of the pargana and the belt of sand to the south-east, which is covered with scrub jungle and fruit trees.

50. Miscellaneous includes a multitude of crops which are all grown on areas so small that percentages, if calculated, would not be of any particular interest.

The chief miscellaneous crops are perhaps castor-oil, sugarcane, cotton, indigo, pan, tobacco and vegetables.

51. Castor-oil is grown in small quantities in all parganas. Its cultivation is most extended in Athaisi and least in Serai.

52. Sugarcane is, according to survey records, grown in all parganas except Chowbiskud, Serai and Matkatpatna. It is probably cultivated in portions of these three parganas, but has escaped the notice of the Survey Amins. The sugarcane areas in parganas Athaisi, Kurilo and Tappa Kanman are relatively greater than elsewhere.

53. Cotton is grown in small quantities in all parganas except Oldhar. There is very little in Matkatpatna, Serai, Chowbiskud and Paschimduai. The area is relatively greatest in Kodhar pargana,

54. Indigo (included under "Dyes—other") is grown in very small quantities in 13 out of the 18 parganas of the subdivision. It is found chiefly in Kotdesh, Antrodh, Kotrahang and Damarkhand.

55. Pan (betel) is grown in small quantities in 10 parganas, chiefly in Damarkhand, Rahang, Lembai and Kotrahang. In north-west Damarkhand there is a pan-grown centre at place called Narsingpur. Cultivation has extended much of recent years, and the particular variety grown there has established for itself a popularity in the Cuttack and Calcutta markets, and is known by its local name as "Narsingpuri pan." The pan gardens of Kotrahang, Lembai and Rahang are to be found chiefly close to the Jagannath road. The pan grown in these gardens is sold to pilgrims and exported to Puri Town.

56. Tobacco is grown in 11 parganas. The largest areas are in Kotdesh, Rahang and Paschimduai. The tobacco grown is for the most part consumed locally.

57. Vegetables (included under miscellaneous crops—Food—others) are grown everywhere on riverside lands and lands adjoining the village sites. The areas are relatively large in Rahang, Kotdesh, Kotrahang, Lembai and Paschimduai, which are traversed by the principal rivers of the district, and have extensive village sites. They are infinitesimal in Damarkand Astrang, Kurilo, Tappa Kanman, four of the north-eastern parganas. The chief varieties are mentioned in Mr. Nathan's note quoted above.

vii. Vegetables.

OUTTURN OF CROPS.

58. Mr. Nathan gives the following estimate of outturn per acre of the different classes of paddy:—

Biali	20	to	120	gounies	average	322	Standard	seers.
Chota laghu	50	to	60	"	"	253	"	"
Medium laghu	100	to	120	"	"	506	"	"
Bara laghu	140	to	160	"	"	693	"	"
Sarad	200	to	200	"	"	966	"	"
Baradhan	200	to	200	"	"	1,012	"	"

Very few crop experiments have been made in Puri District yet, and it is therefore impossible to say how far these estimates, which are based on enquiries made from cultivators, can be accepted.

The only Puri experiments of which I could find record, are the following:—

Made by the Assistant Settlement Officer, Babu Jotendra Mohan Sinha, average 669 seers.

Made by the Assistant Settlement Officer, Babu Sudersan Das, average 882 seers.

The general average of these experiments is 900 seers, which seems to be a rather low figure.

59. As the Puri lands are none of them irrigated by canals, we may compare the averages found in irrigated lands of Cuttack and Balasore in the field season of 1895-96. In Cuttack the average of 28 cuttings was found to be 961 seers per acre, and in Balasore the average of 21 cuttings was found to be 936 seers.

Result of crop experiments.

In view of these estimates and experiments, I think the produce of average sarad land may safely be taken at 900 seers per acre.

The produce of biali lands varies within very wide limits. Some biali land is as good or better than 1st class sarad land, while on the other hand some is very poor. For want of exact information I think we may take the average of Mr. Nathan's estimates for biali and the three laghus as an approximation. The average is 443 seers; we may say 450 seers. For estimating the produce of dalua land there are no Puri experiments to assist; but I take the following from the statement published with the Director of Land Records and Agriculture's No. 356A., dated 3rd March 1898. The average of experiments in the Cuttack and Balasore Districts was 1,226 lbs or 613 seers. 600 seers may be taken for simplicity.

60. About the outturn of crops other than rice there is at present absolute uncertainty, as will appear from a comparison of Mr. Nathan's estimates with averages entered in the following statement. I give them side by side:—

Outturn of crops other than rice.

OUTTURN PER ACRE IN SEERS.					REMARKS.
Name of Crop.	Mr. Nathan's estimate	Director of Land Records and Agriculture's Statement of 3rd March 1898 (lbs converted into seers)	Approximately.		
Mandia	92	616	600		Mr. Nathan's average for mandia, mung and kulthi appear to be inexplicably low; estimates based on experiments are more reliable.
Mung	92	376	400		
Kulthi	184	545	550		
Arhar	...	510	500		
Biri	...	375	400		
Chana (grain)	...	467	450		
Gaba (castor oil)	92	...	...		
Rasi (til)	69	...	...		
Mustard	...	215	200		
Sugarcane	...	1,735	1,700		
Wheat	...	355	300		

Of cotton or jute I can find no estimates.

An acre of pan garden yields about 7,200,000 leaves a year according to an estimate made by Mr. D. H. Kingsford, Assistant Settlement Officer in charge, Balasore.

An acre of tobacco land yields about 12,500 leaves. Mr. Nathan says 5* joris per gunth, each jori consisting of 2 strings with 50 leaves on each.

FOOD-SUPPLY OF DISTRICT.

61. In the last section I have endeavoured to throw together some information on the subject of average outturn. It will be seen how imperfect and incomplete are the data available, but they are the best we have, and I propose to use them in order to prepare a rough estimate of the food-supply of the subdivision.

The crop statement of the subdivision is confined to the temporarily-settled parganas that is, to nearly 1,000 square miles out of a total of some 1,200 (excluding the Chilka lake)

The food-supply in these 981 square-miles may be estimated thus:—

Crops.	Area.	Average outturn per acre.	Total in maunds.
Rice.—Biali	28,000	450	...
Sarad	357,000	900	...
Dalua	16,000	600	...
Total	401,000	...	...
Mandis	9,000	600	...
Kulthi*	24,700	550	...
Mung*	24,700	400	...
sugarcane	560	1,7000	...
Grand Total ...	411,960	...	...

The areas under wheat, maize, chana and other miscellaneous food crops are inappreciably small, and it unnecessary to include them in the estimate. The total area under oilseeds is only 10.82 acres, and the outturn varies so much according to the situation of the land and the variety of crop that an estimate of the total yield is impossible. It is unnecessary to allude here to the non-food crops, which also occupy an infinitesimally small proportion of the cultivated area of the district.

EARLY HISTORY OF THE DISTRICT

62. The most interesting and connected account of the early history of the District

Early history of the District.

which I have come across is contained in a note written by Mr. A. C. Sen and included in the

District Census Report of 1891. Mr. Sen was for several years in the district of Puri, first as Settlement Officer and afterwards as District Officer, and devoted some of his time to the elucidation of this interesting subject. As knowledge of the early history is essential both to an intelligent understanding of the ethnical division of the people, and to an appreciation of the existing revenue system. I take the liberty of including Mr. Sen's note *verbatim* in the present report. The most interesting portion of the note is that which deals with the part played by the south country in the civilization and development of Orissa and in the foundation of the worship of the Mahadev. It is not known to me what is the nature of the evidence on which Mr. Sen's theory is based, nor what credence it has obtained in the minds of those familiar with the results of antiquarian and historical research, but to the ordinary readers it appears to be both ingenious and plausible.

Mr. A. C. Sen's note on the early history of Puri

60. Mr. Sen's note runs as follows:—

"Early History of the District of Puri.—At a very ancient time, the district of Puri, like the adjoining district of Cuttack, was peopled by two classes of aboriginal tribes both ignorant of cultivation. The one occupying the western and the hilly portion of the country the forefathers of the present Kandhs and the Savars, lived on the jungle produce—roots and fruits, birds, beasts and reptiles. The other class resided on the littoral, and lived mostly on fish. The present Kants are probably a sort of mixed descendants from them. In course of time the Ods (b) a branch of the Dravidian race, came and took possession,

*N. B.—There are no separate figures for kulthi and mung, but as noted above, I have assumed that they are grown over a more or less equal extent of country.

(b) Ods meaning chasa or cultivators. The word Aryan, from the root Ara, has the same meaning, but, probably the words have nothing to do with one another, unless, of course, they come from a common word in use among the forefathers of both the Dravidian and the aryan races when they lived in the country between central Asia or some other places.

first, of the Orissa plains, and gradually pushing away the Kandhs and savars to the west, and the forefathers of the Kents towards the sea, occupied the whole province. The Kents and the Bouries are probably the offsprings of inter-marriages between the aboriginal tribes and the Ods.

"The Ods were far in advanced of the aboriginal races as regards civilization. They were well acquainted with the art of agriculture and brought the province under cultivation. They gave the province and the people their present names Uria (Orissa) and Urya (Ooriah). The Ods came from the south; most probably they did not come all at the same time, but waves after waves of emigrations took place, the new-comers pushing those who came before more to the north. One of the last of the race to come were the Kama Bramhans, commonly called Kamas. Before the Kamas left the southern country, it had already been brought under the influence of the Aryans, and Agastya and other Rishys (Bramhan sages) had already spread Aryan civilization among the Dravidian people. The Kamas probably formed a very important class of people among the Dravidian races. They are being called Bramhins, though ethnically quite distinct from the Aryan Bramhans, shows that the Aryan conquerors of the south made a compromise with the most influential portion of the ruling race, and gave them one quality with the most respected class among themselves. The most valuable result of my enquiries into the ancient history of Orissa is, I believe, the discovery of the existence of the Kamas in the country. I shall come to this most interesting, but nearly extinct people later on, but before the Kamas had emigrated into Orissa, a most important event had occurred in the history of the country. The Budhistic monks of Asoka had preached their religion among the people of Orissa, especially among the hill tribes, the Kandhs and Savars had honey-combed the sandy hills of Dhonli, Udayagiri, Khandgiri, Rameswar and Nilaory. Udayagiri is, I believe, the place where the Budhistic monks made their first settlement.*

"To return to the Kamas. They were the first reformers of Orissa. Originally worshippers of the Lingam, or the male generative organ, they had probably from their study of the Vedas and the Upanishads and the philosophy of the Aryans purified their religion from all sensual ideas and made it into a monotheistic religion of all creative energy of the Deity. The most common name of their god was Mahadeb, the greatest god, or the god of gods. They also gave to their gods some of the best names yet known to the worshippers of any religion. He was called the Parmeshwar, or the lords of lord; the Bhubaneshwar, lord of the world; Lokenath the lord of the people; Biswanath, the lord of the universe. They erected beautiful temples and dedicated them to their god all over the province, selecting the most beautiful spots existing in it, with the instinct of true lovers of nature. They built villages on the most advanced sanitary principles. They excavated magnificent tanks and sunk beautiful wells. They were great cultivators, and with the help of the Ods, reclaimed almost the whole of the culturable waste land of the province. They were the first to make embankments and raised roads in Orissa. The temple remains of the province for the next five centuries or so reveal keenest struggles between different religious sects ending in all sorts of compromises. Even in the most elaborate caves of Udaygiri, not a single figure of worship could be seen. The Lingam was the only idol of the first Kama temples. But in the caves of Khandgiri, separated from Udaygiri only by a slight depression, we first see the figures of Budha in contemplation. Underneath these figures were afterwards carved figures of Thakurain, a female deity among the hill people, who was afterwards hinduised into Sakhti and Parbati. It is noteworthy that they have all been made on the model of the Budha's figure. At the gates of the largest of these caves was afterwards added the figures of the Mahabir† (the greatest hero) or Hanuman (the monkey god) another aboriginal object of worship. The Budh monks, however, failed to get many converts among the Ods, and at last pressed hard by the followers of Siva (Mahadeb) left the populous part of the country and betook themselves to Niladri Hill in the Barmal (the greatest table land) of Banpur. Here they made a magnificent temple with beautifully carved square columns, put up gigantic figures of Budha, and began the tooth ceremony, conveying Budha's tooth in procession along a broad road, the original Baradanda. The Kamas under the Kings of Ganga line, built two temples at Dhauli—one on the top and another at the foot of the hill—and excavated a tank covering more than two miles. They also built a temple of Mahadeb on the top of Khandgiri and adorned it with figures of Budha slightly altered. I may notice here that about a hundred years ago a Cuttack merchant of Jain sect erected a Jain temple here out of the materials of the temple of Mahadeb. Finally, the Kamas raised the magnificent temple of Bhubaneshur, by far the best temple in Orissa. But in doing this they compromised with the aboriginal followers of Budha by adding Yoni to Lingam. The Yoni was at first only the female creative power, but it was soon made into Parbati, the wife of Mahadeb. This union afterwards gave birth to the thousands of Hindu gods and goddesses.

*Some inscription found here go to prove that the caves here were made by some of the Rajas of Kalinga before the times of Asoka at about 350 B. C.—A. C. Sen.

† Mahabir is generally supposed to be an object of worship among the Jains, but probably they borrowed it from the Hill Tribes.—A. C. Sen.

"2. The most important event in the history of the province is the expulsion of the Buddhists altogether from Utkal (Orissa). The Budha's tooth was first taken by land to Tamralipta (Tamlak) and thence to Ceylone. The temple at Niladri, situated in the midst of an impassable dense jungle, fell into ruins and was forgotten by every body excepting a few Kandhs of the place. It became now the turn of the Kamas, the greatest reformers of Orissa, to be driven out of the country. How it happened has not been exactly ascertained, but the event is a counterpart of the expulsion of the Brahmins by the Kshatriyas in Northern India. The Ods had no caste system, properly so-called, among them. There were different grades of people among them, but the division was based on profession, wealth and intelligence, and not on caste. An old chassa would become then, as is the case now a Prodhan (headman), and a Prodhan would become a Khandait (swordsmen), but there was no caste distinction; the Kamas claiming to belong to a higher caste was an innovation. The Khandaits rose in a body, and there was a general massacre of the Kamas. Probably a few survived, and they left the country. It is a remarkable fact that in a country that resounded with their glory, not a single descendant of the Kamas is to be found, and their very name seems to have been well-nigh forgotten. The brief sketch given above is the result of hard work for four years, during which, both as a Settlement Officer and District Officer, I went from village to village in search of the traces left by this once famous people.

"3. After the expulsion of Kamas there was a religious collapse, during which the Savars now called Bauris, performed the worship of Mahadeb in the great temple of Bhubaneswar, and the malis (gardeners) barbers, did the same duty in the numerous minor temples scattered over the place.

"4. The next event is the conquest of Orissa by the Aryan Kings of the Lion line. Jajati-Kesari (Kesari, the lion) is said to be the founder of the line, but the name seems to me to be a fictitious one, for reasons to be presently indicated. These Kings settled at Jajpur and imported soon after a large number of Aryan Brahmins (now commonly known as Sasani Brahmins) from the north. These Brahmins took possession of all the villages and temples left by the Kamas. One very characteristic thing done by them was to give northern Aryan names to places, idols and kings of Orissa and to connect them with Aryan mythological stories. Thus the founder of the Lion line became Jajati of the Mahabharat, the ghat at Jajpur became the Dassaswamedha Ghat of Benares. One of their Kings Lalatendra Kesari, adorned the great temple at Bhubaneswar with some beautiful carved figures, and added to it a Mukhchali (a building in front of the temple) with figures illustrative of the two great Sanskrit epics, the Ramayan and the Mahabharat. They also elaborated the idea of Yoni added to the Lingam, into the worship of Shakti or Parvati. These Aryan Kings were the great Shakti worshippers and not worshippers of Siva, as a Hunter wrongly supposed, though like many other Hindus of old they absorbed the Sivaism into their form of worship.

"5. The movement that followed brought into prominence the worship of Vishnu. It was founded on the Budhistic religion. The great figure of Budha, with those of Dharma and Sanga in the temple of Niladri or Nilgiri, and known only to a few Kandhs* was brought to Puri and kept in a temple probably already in existence here and originally dedicated to the Mahadeb. The word Jagannath is so like Lokenath, Biswanath, Bhubaneswar, Parameshwar, &c., all names of the Mahadeb, that I think it was originally given to a Mahadeb. The Car festival is an imitation of the Budha's tooth festival performed first at Niladri, and thence introduced into Ceylon, and the Baradaahwar, the open tract through which the open procession passed. The next movement can hardly be called a religious one. It was a degeneration of the worship of Lingam into all sorts of sensualism. The great temple at Kanarak, with its most grossly indecent figures, illustrate this stage of the Orissa religion. When a country arrives at this stage, a foreign conquest is inevitable, and so it happened in the case of Orissa. That temple and province became soon the scene of the Muhammadan and Mahratta atrocities.

"6. The first Muhammadan invasion of Orissa took place within ten years of the conquest of Bengal by Bakhtyar Khiliji. In 1218 Ghiyazuddin swept down upon Orissa and forced the Hindu Rajas of the province to pay tribute; but it was not till more than three centuries of raid and hollow treaties had elapsed that the province was actually subjugated by the Muhammadans. Taking advantage of the absence of the Orissa Raja in the south, Ismail Gazi, General of Hossein Shah, king of Bengal, dashed down upon the province, sacked the capital Cuttack and plundered the holy city of Puri itself. The final defeat of the Hindus took place half a century later. In 1367-68 the Afghan King of Bengal Suliman, advanced with a great army under his General Kalapahar (a Brahmin convert to Muhammadanism) into Orissa and defeated the last independent King Makuand Deb, under the walls of Jajpur. The Hindu Prince was slain. From this time the representatives of the Hindu line have been merely the Raja of Khurda and the custodian of the temple of Jagannath. The Afghan army under Kalapahar marched through the province and smashed the idols and besieged and captured the temple of Jagannath. After levying a pilgrim tax of a lak of rupees a year, the Afghan Deputy of Orissa threw off his allegiance to the Emperor of Delhi and the Governor of Bengal and made himself independent.

*Not Savars as originally supposed. The Barus of Bhubaneswar belong to the Savar tribes and not the Daitas of the temple of Jagannath. The latter belong to the Kandha tribe.

"7. Akbar, the greatest of the Mogul Emperors of Delhi, with the help chiefly of his two Hindu Generals and statesmen, Rajah Todar Mal and Rajah Mansing, succeeded in re-annexing Orissa to the empire. Todar Mal was the first to make a general revenue settlement of the province. The country, however, was not destined long to enjoy the benefits of a settled government. Murshed Kuli Khan, who so wisely governed Bengal from 1704 to 1725, finding it impossible to get the revenue of Orissa by civil administration, made it over to soldiers of fortune, who collected the land tax at the spear point. During the thirty years which succeeded his death, the internal troubles which beset the Mogul empire presented anything like a settled government in Orissa. The peasantry was left at the mercy of a succession of rude soldiers, who harried the province and get together as much plunder as their brief tenure of office allowed.

"8. But wretched as the state of Orissa had been under the Moguls, a half century of deeper misery remained for it under the Mahrattas. It was in 1751 that Aliverdi Khan virtually ceded to the Mahrattas the Province of Orissa, though for a few years a Muhammadan Deputy ruled the country in the name of the Moguls paying 4 lakhs of rupees a year as a tribute to the Mahratta province. At the end of 1756, however, finding it impossible to wring out of the miserable population sufficient money to pay even the Mahratta tribute, the Deputy begged to be released from his office. His prayer was granted, and a Mahratta Governor was appointed in his place.

"9. The Mahratta prince had his capital or standing army at Nagpur in Central India, and waged incessant wars with his neighbours. His Deputies, who were constantly changed and imprisoned on their recall, struggled to wring out of Orissa, the only peaceful province of the kingdom, a sufficiency to supply the military necessities of their master. The hereditary Rajah of Khurda was forced to pay a tribute of 13 lakhs of rupees a year. Nothing like a civil administration existed in the country. The Mahratta caval harried the province at a stated period every year and departed with the spoil. The peasantry gave up the cultivation of the land and betook themselves to morasses and forests. The result was a great famine in 1770, of much greater intensity than that of 1866, and which, instead of being mitigated by the exertion of a sympathetic Government, was intensified by a mutiny of foreign troops. While the people were dying by hundreds of thousands on every roadside, the Mahratta soldiery threw off the last vestige of control and for many months raged like wild beasts. A second famine followed in 1777,

"10. No wonder, therefore, that when in 1803 the British soldiers under the command of Colonel Harcourt with Mr. John Melvill as the Civil head, after crossing the dangerous channel through which the Chilka communicates with the sea, came in sight of the town of Puri; the Brahmin priests of the temple instead of offering any resistance placed themselves and their idol under their protection as the long-expected saviours. The first Mahratta defeat took place on the 4th October 1803 at Mukundpur near Pipli. The Fort of Cuttack was taken on the 14th of the same month. Equal success attended the expedition against Balasore, which had been despatched from Bengal. Colonel Harcourt and Mr. Melvill as Joint Commissioners were the first administrators of the Province. The only instances of armed opposition to British rule, which have occurred since the conquest in 1803, are the rebellion of the Khurda Raja in 1804, and the insurrection of the Khurda Paiks in 1817-18. In 1829 the province was split up into the three regulation districts of Cuttack, Balasore and Puri, and the non-regulation Tributary states.

"11. There has been no change in area boundaries and jurisdiction since 1829, except that a jungly tract, covering an area of about 15 square miles, and containing eight Kandh hamlets called the Darzamamal, has since 1889 been included in the Khurda Estate, as it was found to be within the old survey boundary of Khurda".

NOTES ABOUT POPULATION.

64. The information that is procurable regarding the earlier fluctuations in the district population is very meagre and unreliable. The first regular census was made in 1872. Prior to that we have only rough estimates made by the Police and Survey Departments and based on the numbering of houses. At page 232 of Famine Commissioner's Report of 1866 there is a statement of the population of the district by parganas compiled by the Police in October 1866. It shows the number of inhabitants before the famine, and the number that died during the famine. From the Survey Office I have obtained a statement of the number of houses and number of inhabitants compiled in the survey operations of 1837-42 for all parganas of the district except Mahed, Bajrakote, Parikud, Manikpatna, Chaubiskud and Serai. I find that for the parganas for which the figures of both periods are available, the increase of population from 1837 to 1865 amounted to 16 per cent. Assuming that the same increase occurred in the six parganas mentioned, we are able to construct the following comparative table parganawar for the three periods 1837-41, 1865 (before the famine) and 1866 (after the famine).

NAME OF PARGANA.	Population in 1837-41.	Population in 1865.	Population after famine.	REMARKS.
1	2	3	4	5
Malud	(2,870)	3,329	1,812	The bracketed entries in column 2 are those derived by inferential comparison.
Bajrakot	(3,312)	3,843	1,947	
Parikud	(8,823)	10,235	4,433	
Manikpatna	(5,262)	6,104	1,627	
Chowbiskud	(24,701)	28,654	9,727	
Serai	(9,813)	11,384	3,966	
Rahang	88,228	80,375	43,229	
Lembai	29,979	41,896	37,896	
Kotrahang	22,556	30,889	27,889	
Paschimduai	14,630	18,326	16,828	
Purbaduai	11,083	13,829	8,395	
Kotdesh	86,951	93,424	53,603	
Banchas	10,280	10,067	5,781	
Athaisi	6,926	13,447	7,561	
Antrodh	15,900	20,683	10,663	
Astrain	1,274	2,293	745	
Kurilo	5,433	10,920	5,233	
Khodar	7,807	14,102	6,622	
Marichpur	6,421	7,449	3,222	
Damarkhand	7,930	12,445	5,532	
Oldhar	6,318	8,400	4,296	
Matkatpatna	1,062	1,039	603	
Total	377,559	443,133	261,610	

65. The increase of population in the first thirty years of the settlement averaged, as before mentioned, 16 per cent. Then came the terrible calamity of the great famine which, according to the police numbering, reduced the population of the Sadar Subdivision by over 40 per cent. The population in 1866 remained about 30 per cent below what it had been thirty years before.

The first regular census was made in 1872. In this, as in the census reports of 1881 and 1891, the statistics that were compiled are thanawar, and it is impossible to extract figures for each pargana without an amount of expenditure and trouble incommensurate with the object. Looking, however, for the present to the subdivision as a whole, we find that in 1872, the population had gone up to 488,751. In 1881 it rose to 564,759, and in 1891 to 613,575. The fluctuation may be shown briefly thus :—

Period of numbering or census.	Population.	Percentage of variation on previous period.	Percentage of variation on last settlement survey numbering.
1	2	3	4
1837—41 (Survey)	377,559	.....	.....
1865 (before famine)	443,133	+16	+16
1866 (after famine)	261,610	—40	—30
1872	488,751	+87	+30
1881	564,759	+15	+50
1891	613,575	+ 8	+62

66. The most remarkable fact in the history of the district population is the celerity with which it recovered after the violent interruption of the famine year. In six years the population nearly do bled itself, but this can scarcely be regarded as within the bounds of possibility,

and the true explanation seems to be either that the population before the famine was very much under estimated, or that the number of deaths was very much over-estimated. Both causes were probably at work. It is exceedingly likely that as the number of deaths was estimated from the number of empty and deserted houses, a great many people who had temporarily removed to Khurda and the Garjats were counted amongst the dead. Leaving out of account the extraordinary disturbance of the famine year, and comparing the population of 1872 with the previous population of 1837 and 1865, and with the subsequent census of 1881 and 1891, it will appear that there has been a steady advance in the population. The growth from 1872 to 1891 has been 25 per cent. It is not improbable that the advance from 1837 to 1872 amounted to 50 per cent. and I am therefore inclined to place considerable reliance on the result of the survey count of last settlement.

The statistical records of the censuses of 1872, 1881 and 1891 being thanawar. I have endeavoured, for the sake of comparison, to build up thana totals from the pargana figures of 1837 and 1865. For parganas not continued entirely within one thana, a division has been made according to the existing number of houses as counted in the present survey and settlement operations. An attempt has also been made to estimate the present population of the district. The number of houses in cash thana being known, it has been multiplied by the thanawar average number of persons to each house according to the 1891 census. In this way the following comparative table has been prepared :—

NAME OF THANA	Population in 1837-41.	Population in 1865.	Population in 1872	Population in 1881.	Population in 1891.	Present number of houses.	Multiplicand per house according to census of 1891.	Present population.	Variation of present estimated population on population at last settlement.	REMARKS
1	2	3	4	5	6	7	8	9	10	11
Gope ...	74,796	106,844	96,096	116,167	134,038	23,868	6.0	143,208	91	Thana Puri includes Town of Puri and Naba Thana of 1872 Census.
Pipli ...	144,493	171,642	204,375	226,782	241,470	45,655	5.3	241,971	73	
Puri ...	158,270	164,647	188,280	221,810	238,067	{ 38,302 6,927	{ 5.6 4.4	{ 214,491 30,479	{ 55	
								244,970		
Total ...	377,559	443,133	488,751	564,759	613,575	114,752	...	630,149	66	

The present estimated population is only 2.7 per cent. in advance of that ascertained in 1891. The advance of 1881 on 1872 was 15 per cent., and of 1891 or 1881 8 per cent. It may be that the pressure of population on the resources of the soil has gone almost as far as it can go and that this is the cause of the slowness of the advance made during the last decade. On the other hand, the survey count of houses may be incorrect, and this method of estimating the population does not in any case pretend to be very exact. The table shows that the growth of population has been greatest in Thana Gope. This is not unnatural, as that thana was at last settlement, and still is, the least developed of the three. It is still much more cut off from the rest of the world by absence of communication than thanas Pipli and Puri, which have, in addition to the trunk road, recently acquired the convenience of Railway communication. Looking to the general results of the above enquiries, it may, I think, be safely assumed that the increase in the population of the subdivision during the term of the last settlement has been not less than 60 per cent. The importance of this conclusion from the revenue and rent point of view will be discussed below.

COMPOSITION AND DISTRIBUTION OF THE POPULATION

From the census returns of 1891 a few of the more important facts as regards composition and distribution of population in the Sadar Subdivision have been abstracted and thrown in Appendix X.

Division by sex.

Town. The proportions are for the subdivision :—

Males 50.6 ... Females 49.4 of Puri Town.
Males 55.3 ... Females 44.7

68. The number of males is slightly in excess of the number of females, especially in Puri

69. Puri being one of the chief strongholds of Hinduism, it is not surprising to find that

Division by religion.

Hindus compose 98·6 per cent. of the total population. Musalmans represent 1·3 per cent. The proportion of Hindus is highest near the precincts of the sacred city, viz., in Puri Thana and Puri Town. There are a large number of Musalmans in villages Gope, accounting for the higher proportion in that thana.

The general proportion of Hindus to Musalmans throughout Bengal in 1841 was 64·67 and 31·70 per cent., respectively, in Cuttack 97·00 and 2·78; in Balasore 97·90, and 2·10. Puri is thus prominently a home of the Hindus.

70. It will be seen from the statement that nearly 7 per cent. of the resident population

Emigration.

in 1891 consisted of immigrants. By far the largest number came from Cuttack District, and of these most settled in Thanas Gope and Pipli, where it may be presumed they engaged in cultivation and its accessory occupations. The settlers in the southern portion of the district came chiefly from Madras. The recorded immigrants of Puri Town were probably for the most part pilgrims. There is no emigration from the district in the more special sense of the term. There is a constant influx and efflux of pilgrims and labourers between Puri and the neighbouring district of Ganjam and Cuttack, but there is no cooly emigration. The difficulty of communication with Calcutta has been hitherto a well-nigh insuperable obstacle. Now that it is shortly to be removed, we may expect to find the cooly recruiter in the district. The year 1896 was a year in which there was more movement of population than usual. The scarcity prevailing in the flooded parganas Purbaduai and Oldhar Serai and Chaubiskud drove many of the poorer agricultural labourers to seek work on the East Coast and Bengal-Nagpur Railways. Many of these labourers have not yet returned to their homes, as the prospects of cultivation in Purbaduai and Oldhar are still by no means bright.

DIVISION INTO LITERATE AND ILLITERATE.

71. The gulf that in India separates male from female in the matter of education is so

Division into literate and illiterate.

wide that it is necessary to look at the figures for each sex separately. The number of men who could write their names and of boys who are attending school amounted in 1891 to 13·6 per cent. of the total male population. As might be expected, the proportion is highest in Puri Town with its numerous Bramhins and Karans, and lowest in Thana Gope, which is more remote from the chief highways of the district and from its educational centres than Kanas, Puri and Pipli.

As regards females, only 1 in 300 was found to be literate or learning. Puri Town showed the highest percentage and Gope Thana the lowest. The relatively high figure in Pipli Thana is to be ascribed to the existence of a Christian Girl's School in Pipli village.

DIVISION INTO CASTE

72. In the table I have entered thanawar the numerical strength of those castes which make up more than 1 per cent. of the population of the subdivision. The percentage to the total population is entered in red ink below each figure, and the varying distribution from thana to thana can thus be seen at a glance. By far the largest proportion of the population is engaged in agriculture pure and simple. The people returned as "Sudras" are, like the "Chasas," cultivating raiyats. Both of the terms are generic. "Sudra" seems to have been the term most popular in thana Gope. If the two be combined, we get the total percentage of (subdivision) 39, (Thana Puri) 46, (Town Puri) 17, (Thana Gope) 49, (Thana Pipli) 27. The people who come next to the cultivating raiyats in intimacy of connection with the soil are agricultural labourers. These are chiefly Bouries and Savars. Between them they make up 12 per cent. of the population. The Bouries, believed to be sprung from the intermarriage of the aboriginal people with successive races of invaders, are strongest in thanas Gope and Pipli. In the southern Parganas there are fewer Bouries and more cultivating raiyats. The savars are of the aboriginal tribes. They are much more numerous in khurda than in the sadar and in the latter are most abundant in the thana lying closest to the Khurda hills. Of the Khands, a still older race, there is only a small number in the Sadar Subdivision, though they are numerous in Khurda. We come next to the pasturing caste, the Gours of Goalas. The Uriya name is "Gour." Goala is a Bengali designation. The Gours make up over 5 per cent. of the population and are most numerous in Thana Gope. The three classes I have described exhaust the purely agricultural section of the inhabitants of the districts. Between them they account for nearly 60 per cent. of the whole. The remaining castes represent accompaniments and accessories to the life of an agricultural community, and the most important in Puri district is the religious. The Bramhins of the Puri Sadar number 66,771 or 11 per cent. of the population. They are not all spiritual guides, though Puri Town contains a large number of such. The great majority are cultivators, most of whom held land on privileged terms as the lakhirajdars, tankidars and baziafidars of last settlement. As might be expected, the Bramhin community is least strong in the outlying thana of Gope, and most preponderating in the holy city of Jagannath. The statistical account divides Puri Bramhins into two great classes—(1) Baidie. (2) Lankik. The former are the imported Bramhins of Jajpur, dating back to the end of the twelfth century. They are the priestly class proper who trade on the religious superstitions of the community. The Lankiks are representatives of an older Aryan settlement and are mostly well-to-do cultivators and petty merchants.

Next to the Brahmins in esteem as well as number come the Karans or writer caste, analogous to, but distinct from, the Bengali Kayasths. They are the village accountants and gomostas, the class which supplies most of the clerks and muharirs in Government offices. Some of them are well-to-do traders and zamindars. They form nearly 4 per cent. of the population and are diffused pretty equally all over the district, though more numerous in Puri Town than elsewhere. The trading and shop-keeping class is made up of several sections whose functions were originally quite distinct, but the levelling power of money has gradually effaced the distinctions, and we find the wealthier merchants, whether originally oil-pressers, confectioners, grain-dealers, or silversmiths, alike engaged in money-lending, general trade and land speculation. Arranged in order of numerical strength, the sections of the trading community are—

1. Telies or oil-pressers and merchants	...	...	19,795
2. Guria or sweetmeat makers	...	...	14,851
3. Banias or general traders and merchants	...	...	6,512
4. Sonar or gold and silversmiths	...	...	4,516
5. Golla or petty traders	...	...	3,162
6. Patra or cloth-dealers	...	...	2,571
7. Thooria or oil merchants	...	...	1,934
8. Baishya or high caste general traders	...	...	1,079
Total			54,420

They make up about 9 per cent. of the total population and are more or less evenly distributed. Perhaps Kotrahang Pargana, lying along the main line of communication, is their strongest centre. The most important of the remaining castes are village servants and village artisans. Every village of importance has one or more families of the following castes:—

1. Kandra Village	...	...	...	Watchman
2. Bhandari "	...	...	...	Barbar
3. Dhuba "	...	...	...	Washerman
4. Barahi "	...	...	...	Carpenter,
5. Kumbhar "	...	...	...	Potter
6. Kamar "	...	...	...	Blacksmith.

These are all indispensable to the life of the village community. With the exception of the Kandra, they are the village servants whose small jagirs averaging half an acre have been left unresumed in the present settlement. Together they represent about 10 per cent. of the population. They are distributed with great evenness over the district, save that Puri Town has few Kandra (a low caste perhaps not tolerated in proximity to Jagannath), and more than its due share of carpenters and blacksmiths. The annual preparation of the cars for the great summer festival is probably the cause of the concentration of skilled labour in the holy city.

Next in importance to the village servants came the following:—

1. *Fishermen*.—The most widely diffused caste is the Kent, but there are many minor castes, of which the chief is the "Nolia." The "Nolias" are Madras origin, and are the sea and Chilka fishers as opposed to those who ply their occupation in rivers and tanks. They have a large village on the shore near the Puri port, and many smaller hamlets on the Chilka littoral.

2. *Weavers*.—The chief caste is the "Tanti," but there are numerous minor castes—Bansi, Patra, Hansi, Dera Rangani. They are grouped together in small communities living in special villages.

3. *Gardeners*.—The Malakar caste or malies are minor servants in the shrines of gods as well as ordinary gardeners. They are equally diffused over the district, as no village is without its little shrine or temple, be the idol but a rude stone under a village tree painted vermilion and hung with garlands.

Of the remaining castes, it may be noted that the Paikas are mostly road-watchmen; the Siyals are toddy extracters, Rajput and Khandait are titles rather than castes, the Kansaries are brass workers, the Pans are a low caste of labourers and musicians, the Jyotishi is the astrologer, Sagarpashas (the Bengali golam) are the bastard offspring of Brahmins, Karans and other higher castes; excluded from the caste of either parent, they form one by themselves. Baishas are religious mendicants; Haries are sweepers; Kachras, glass blowers; Bunas, cloth makers; Chamars, skin dealers; and Kelas, stone workers and vagabonds.

We have now examined the most important elements which go to build up an agricultural community like that of Puri District, and find that the constituents are briefly and roughly as follows:—

Agricultural and pastoral (including Chasas, Bauries, Sudras, Golas, Savars, Mali)	...	...	...	56 Per cent
Religious, literary, titular (including Brahmins, Karans, Jotish, Baisnabs, Rajputs, Khandaits)	...	...	...	16 "
Traders (including Telies, Gurias, Banias, Golas, Patras, Thurias and Baishyas)	...	...	...	9 "
Village servants and village artisans (including Kandra, Bhandaries, Dhubas, Barahis, Kumbhars, Kamars)	...	...	...	10 "
Fishermen (including Kents and Nolias)	...	...	...	3½ "
General artisans (including Tanti, Kachras, Kansaries and Banias)	...	...	...	2½ "
Miscellaneous	...	...	...	1 "

EARLY FISCAL HISTORY OF THE DISTRICT

73. The origin and history of land revenue administration in this district and in Orissa generally have been made the subject of numerous enquiries, and the results have been detailed at great length in Starling's Minute of 1821 (published as an appendix, pages i to lxxviii of Toynbee's History) in Toynbee's History of Orissa, pages 23 to 59, in the Statistical Account of 1877 (pages 101 to 135), and in Babu Nand Kisore Das' Report on the Puri tenures, dated 21st October 1875. I do not propose to do more in this report than give a short sketch of the facts disclosed by the enquiries of these authorities. Such a sketch is necessary in order to understand the growth of rights and interests in land as well as to afford grounds for comparison of the current settlement with those that have gone before.

74. Up to the year 1570 Orissa was ruled by Hindu sovereigns, whose present day representative descendant is the Raja of Puri. Under their regime Orissa was divided into two tracts—the hill country and coast marshes held by great military chiefs called Bhuyans, and the central plain directly managed as crown land. This latter was divided into circles called kanhas, or bisois, each of which was managed by two officers—a khandpati, whose duties were general and magisterial, and a "bhoimal," whose duties were connected with land and revenue collection. Then, as now, the ultimate land-revenue unit was the village. In each village there was a "pradhan" or headman and a "bhoi" or accountant, and these two were responsible to the "bhoimal" for the village share of the land revenue of the khand. Police duties were performed by khandaits working under the supervision of khandpati. The khandait controlled the village watchman, the modern chowkidars. In addition to the regular khandas or bisois there were large rent-free and quit-rent jagirs enjoyed by high officers of the royal household.

75. The Moguls conquered Orissa in 1578 and their Hindu Central Raja Todar Mal altered the names rather than the principles of pre-existing order. The hill country was called the Garjat and the plains the "Magulbandi". The great military chiefs were called "zamindars" instead of bhuias and their jagirs became killas. The conquered Hindu Raja was allowed to retain in his hands Khurda, Rahang, Serai and Chaubiskud as a personal estate, and many of the household jagirs were also left untouched. The area thus assigned to the dispossessed monarch and his dependents embraced more than one-half of the Puri district.

For the rest the khandas or bisais were styled "parganas" and the officer in charge "chowdhuri" instead of "khandpati" and "kanungo" villaits instead of "bhoimal." Each of the new officers had a portion of the pargana called a "taluk" under his management. The village headman at the same time were called mokaddams instead of pradhans.

The Moguls remained in power till the advent of the Mahrattas in 1751. During the hundred and seventy years of Mogul occupation, the powers of the managing and collecting officers in the taluks gradually developed, and the office became more or less hereditary but succession was subject always to the confirmation of the ruling power.

76. When the Mahrattas appeared on the scene, they retained the old division into parganas and taluks, but they grouped the parganas into four chaklas—Cuttack, Bhadrak, Soro and Balasore—and they placed 32 amils in charge of the whole area. The duty of the amils was to collect revenue by hook or by crook. The amils found it convenient to recognise only those talukdars who paid without trouble, and when they experienced difficulty in dealing with the chowdhuries and kanungos, they were always ready to receive revenue direct from the village mokadams. Each amil was assisted by the sadar kanungo, and by a number of gumastas and muharirs. Parganas thus began to break up into subdivisions, of which the following were the most common:—

- Taluk Chowdhuri.
- Taluk Kanungo.
- Taluk Kanungo villait.
- Taluk Sadar Canungo.
- Taluk Mozkuri or Mokadami Mozkuri.

Each portion was called after the officer responsible for its revenue. In contrast to this process of devolution, another tendency came into play.

The gomastas who worked under the care of the amils, from being mere office accountants and mofasal agents, began to substitute themselves by successful management, fraud or other contrivance for the talukdars whose collections they were supposed to be supervising. The most signal instance of this process was the acquisition of the zamindar's sanad of parganas Kotdesh, Kalijori and Antrodha in 1775 by Trilochan Patnaik, an Oriya Moanty, who was originally gomasta under the Fauzidar of Pipli, but by his exertions founded the largest zamindar's family in Orissa.

77. Things were in this state when the province was acquired by the British in 1803. We found from the Maharatta paper that the land revenue was being paid by the various talukdars enumerated above, some of them representing extensive tracts of country, and others single villages and patuas of homestead land. The measure that was meted out to

one was metted out to all irrespective of individual history, rights, or origin, and in the great Regulation XII of 1805 the whole body of revenue agents was comprehensively styled "zamindars" and other actual proprietors of the soil. The rights possessed by this class previous to the conquest are thus summed up by Babu Nand Kisore Das :—

1st.—A right of hereditary succession subject to confirmation or tacit recognition by Government.

"2nd.—A right to the profits arising out of the land, consisting of the increase arising out of the annual revision of land tax on bringing unoccupied lands under cultivation, miscellaneous receipts, transit dues on merchandise, petty alienation of land, commission on collection and grant of rent-free tenures.

"3rd.—Responsibility to Government for the whole of the tax on the land under their management. In case of default, the landholder was imprisoned or his estate was sold generally by private sale.

"4th.—Power of transferring their rights by gift or otherwise, subject to the formal consent of the ruling power."

The incidents of the zamindari rights as it now exists will be discussed below.

HISTORY OF THE EARLY BRITISH SETTLEMENTS.

78. The first settlement was made in 1804-5 on the basis of the assessment papers obtained by the British Officers from the Record-keeper and Sadar Kanungo of the Mahrattas. History of the early British Settlement. The papers were afterwards supplemented by documents called Gopal Pandit's devidhi papers, found in the Barbati fort at Cuttack. No information could be gathered from the zamindars, talukdars and mukuddums themselves, who in those days, as now, preferred that revenue officers should work in the dark, and who probably owed to the obscurity so produced their subsequent recognition as proprietors of the soil. At the time of the first settlement and up to 1828 the date of the last of the short settlements, the district of Puri had no separate existence. It was part and parcel of the Southern Division, which included all that portion of the Mogalbandi lying south of the Mahanadi. For the Sadar Subdivision it is therefore not possible, without an amount of trouble uncommensurate with the result to extract for comparison the totals of the various settlements made from the time of the Moguls up to the last settlement of 1837-1841. From what I have seen of the history of particular estates, it may, however, be assumed that the Sadar Subdivision of Puri shared in the general fluctuations that affected the total land revenue of the Division. I give below a tabular statement, from which the number and period of the early settlement together with the comparative level of assessment can be seen at a glance :—

Date of Settlement.	Period.	Amount of Jama.	REMARKS.
1	2	3	4
Mogal times ... ..	.....	15 ⁹ / ₁₀ lakhs	
Mahratta times... ..	.....	14 ⁴ / ₁₀ "	
Amli 1212	1 year ...	13 ¹ / ₁₀ "	
" 1213	3 years .	14 ⁴ / ₁₀ "	
" 1216	1 year ...	14 ¹⁴ / ₁₀ "	
" 1217	3 years ...	15 "	
" 1220	1 year ...	15 ⁵ / ₁₀ "	
" 1221	2 years ...	15 ¹³ / ₁₀ "	
" 1223	1 year ...	16 ² / ₁₀ "	
" 1224	5 years ...	16 ⁴ / ₁₀ "	
" 1227	3 years ...	16 ³ / ₁₀ "	
" 1230	7 years ...	15 ⁹ / ₁₀ "	

The jama of 1230 was continued with small additions up to the date of last settlement, by which time it had reached 16⁵/₁₀ of lakhs. At last settlement a total jama of 16⁹/₁₀ lakhs was settled, but of the new amount 1³/₁₀ lakhs was due to resumption. The previously existing jama was therefore, in fact, reduced by 1⁹/₁₀ lakhs.

79. The above figures are not exact I have taken them from Appendix I to Toynbee's History. The figures in that appendix do not agree with the figures given in Mr. Commissioner Mill's Minute of January 1847 (quoted at pp. clxxii and clxxiii of the same work). But they are sufficient to show what was the general tendency of assessment between 1803 and last settlement. It may be said that, beginning with the Mahratta assessment, we gradually

worked up to the level of the Mogal assessment, disregarding the fact that, while in the Mogul time the country was in a fairly prosperous condition, the Mahratta reign had caused a sad deterioration both in the fertility and cultivation of land and in the general prosperity of the people. With our advent the feeling of security was revived, but this had not been at play long enough to admit of the return of the country to its former high state of cultivation. At the same time there were defects in our system of land revenue management which aggravated the evil of high assessment. In the first place we trusted too much to the Bengali amlas and did not interfere enough to save the ignorant Uriya from his machination. The Uriya was warsted both in the civil and in the revenue court. The case of Killa Kokal in this district is an example which was fraught with some danger to ourselves, as it was one of the causes which provoked the Khurda rebellion of 1817.

A second defect in our revenue administration was its rigidity displayed most signally in the working of the sale laws. The number of estates which were put up to sale between 1805 and 1819 was incredibly large. The Uriya zamindars and talukdars perhaps preferred the Mahratta methods of collection involving possible immersion in a pit or suspension on a door to the British penalty of forfeiture. The harsh enforcement of the sale laws also played into the hands of the Bengali amla.

The short settlements made after 1226 Amli and the thirty years settlement of 1837 were moderate compared with those that had gone before; but as this is a period for which there are separate figures for Puri district, further discussion of the subject may best be relegated to another section.

COMPARISON OF LAST SETTLEMENT WITH PREVIOUS ASSESSMENT.

80. At page clxiii of Toynbee's History of Orissa, there is a settlement of the outturn of last settlement, dated 1850, and signed by Mr. Commissioner Goldsbury. The statement does not exactly tally with that given in Mill's Minute of 1847, but, being later by three years, may be accepted as the more correct of the two.

It shows that the sadar jama of Puri district was before re-settlement Rs. 4,69,278. The net increase was Rs. 18,618. But the amount of revenue due to the resumption of land previously held revenue-free was Rs. 40,038. The burden of assessments on revenue-paying estates was thus really lightened by Rs. 21,420. Again, the net increase was made up as follows :—

				Rs.
By increase in certain estates	...	...	...	58,400
By decrease in certain estates	...	...	...	39,782

There was thus not only a general reduction, but also a very considerable adjustment in the pressure of the revenue assessment. The figures examined above are the figures for the whole district. I have ascertained that the sadar jama of Khurda (including Panchgarh), which was not altered at last settlement except by the addition of resumptions was, previous to 1837, Rs. 1,61,033, and after last settlement Rs. 1,67,496, the difference being the amount of resumptions. Again the jama of the permanently-settled estates is at present and presumably was in 1850, Rs. 10,255; if these figures be deducted from the district totals, then we have for the temporarily-settled area—

				Rs.
Former sadar jama	...	...	...	2,79,372
Increase	...	...	Rs. 51,937	
Decrease	...	...	" 39,782	
Net increase	...	...	...	12,155
				<u>2,91,527</u>
Jama of resumption	...	...	...	33,575

81. The variation in the jama excluding resumptions is thus equal to a decrease of Rs. 21,420 (33,575—12,155). But the constitution of the Puri district is such that these figures give a very poor idea of the amount of relief afforded to proprietors by the adjustment of jama at last settlement. Five entire parganas—Kodhar, Rahang, Serai, Chowbis-kud and Lembai—had been held in the permanent or temporary occupation of Government as khas mahals for many years antecedent to last settlement, and there was not in them the same alteration of jama that occurred elsewhere.

In a note on the fiscal history of Pargana Kotrahang (para. 12 of the General Report), I have shown that the jama of 34 estates was reduced from Rs. 25,142 to Rs. 21,663, although that pargana was the first to be resettled, and the zamindari allowance granted to the proprietor rarely exceeded 30 per cent.

The following is a note of what happened in the six largest estates of the District :—

(KHASMAHALS excluded.)

Name of Estate.	Name of Pargana.	Former Sadar Jama.	Settled Sadar Jama of 1837-40	Jama of resumption	Column 4 less Column 5.
1	2	3	4	5	6
		Rs.	Rs.	Rs.	Rs.
Kotdesh ..	Kotdesh ...	99,376	81,082	11,386	69,696
Kotsahi ...	Kotrahang ...	6,185	5,392	252	5,140
Pipli ...	Do.	4,994	4,524	243	4,281
Kokal ...	Chowbiskud ...	4,267	5,551	151	5,400
Rorang ...	Do.	4,584	4,511	257	4,254
Gobra ...	Athaisi ...	4,907	3,603	784	2,819
	Total ...	1,24,313	1,04,663	13,073	91,590
	Kokal excluded ...	1,20,046	99,112	12,922	86,190

The general reduction (resumptions excluded) amounts to 26 per cent. Killa Kokal was an exceptional case. It was an estate in which there had been violent fluctuations in the jama on account of the peculiar history of the estate. In the settlement of 1817 it was Rs. 6,400, and was reduced in 1822 to Rs. 4,267 the amount which appears in the table. If this exceptional case be excluded, it is found that in five estates the jama was reduced from Rs. 1,20,046 to Rs. 86,190 or by 28 per cent.

HISTORY OF PRICES.

82. As a history of rents is neither complete nor intelligible apart from the history of prices, I have endeavoured to collect together such information regarding prices as is procurable

History of prices.

in an area where, until recent years, there has been no systematic attempt to record economic facts in a scientific shape. I have not confined my enquiries to the Sadar Subdivision, nor to the Puri districts, but have extended them to Cuttack and Balasore, and that for at least three reasons : (1) The information procurable for the early periods is so meagre that, without the assistance of the records of adjoining districts, it would be impossible to generalise ; (2) for the earlier periods particularly the information available is of a vague and inexact nature, and any data that can be procured from the adjoining districts is valuable for purposes of check and corroboration ; (3) the three districts of Orissa are in many respects uniformly situated. They are equally exposed to vicissitudes of seasons, and they have all alike been cut off from the rest of India by absence of communication for the last hundred years. Whatever, therefore has affected prices in one has affected prices in the other two.

Materials used in discussing the history of prices.

83. The materials that I have utilised have been taken chiefly from the following sources :—

- (For the earliest period,) The list of prices given in Appendix III to Mr. Toynbee's History of Orissa.
 - The list compiled by Mr. R. Nathan and Mr. E. H. Wals, who were Assistant Settlement Officers in this district in 1890, 1891 and 1892.
 - The late Mr. W. C. Taylor's Rate Report of 1879 on the last Khurda settlement.
 - Mr. E. F. Growse's (Collector of Cuttack's) Note of 1886 on Cuttack prices.
 - Mr. R. Cornish (Collector of Balasore's) Note of 1893 on Balasore prices.
- These I have supplemented and brought up to date by information obtained from local Officers.

Periods for which comparison made.

84. The data thus available has been thrown into tabular form in Appendices XI to XV.

Averages have been struck for the following periods suitable for comparison.

- The period prior to 1828.
- Decennial period 1828-37 (immediately preceding last settlement.)
- Decennial period 1838-47 (with separate figures for 1843-47, 5 years of extraordinary crop when prices reached their lowest level.)
- Decennial period 1848-57.
- Decennial period 1858-67 (divided into two portions : the eight years 1858 to 1865 and the two years 1866-67 of famine).
- Decennial period 1868-77.
- Decennial period 1878-87.
- Decennial period 1888-97 (the ten years immediately preceding the present settlement.

For each source of information, I have then calculated the proportion which the average of each decade bears to the average of the last decade, assuming the latter to be 100.

The averages of the various sources have then been combined, and one general average, decade by decade, struck for paddy and another for rice, and finally the average of these two has been calculated. The object of the last process has been merely to focus into one statement the numerous results of the previous calculations.

85. Before proceeding to state the conclusions that I have arrived at, it may be well to make a few general observations about the value of the figure and the nature of the process followed. The figures are open to the very strong objection that they do not, especially on the early period, refer to one and the same season of the year.

The only comparison of grain prices that can yield valuable results is a comparison of the prices prevailing in the season when raiyats part with excess produce of their lands in order to obtain money for the payment of their rents. That season is chiefly the months of January and February. The figures that have been used for the earlier years cannot be said to fulfil this condition. Some of them represent prices obtaining in the end of the year after cyclone, flood and drought. Many of them are mere averages of prices that have been noted at varying places and seasons. For many years, no figures are available, and what is taken for example as the average of the period to 1828 is merely the average of a few isolated prices preserved by chance amongst the debris of ancient records.

The figures even of later years are open to the objection that some represent actual transactions, while other are mere averages.

86. In spite of the above objections, I think the averages that have been obtained for decades are fairly valuable as an approximation to the truth. They are at least accurate enough to show within reasonable limits the general tendency of prices.

With these qualifications I proceed to summarise the results obtained. This can best be done in the form of Appendix XVI which I reproduce here, as it gathers together the results of the other statements :—

GENERAL AVERAGE

Period.	Paddy.		Rice.		Average of Paddy and rice percentage	Remarks.
	Standard seers per rupee according to average of all statements.	Proportionate percentage	Standard seers per rupee according to average of all statements.	Proportionate percentage		
Prior to 1823	133	300	2	346	323	
Between 1828 & 1837.	160*	364	40	227	295	* Khurada price.
1838-47	157	357	50	284	328	
(1838-42)	(103)	(234)	(365)	(208)	(222)	
(1843-47)	(231)	(525)	(63)	(358)	(441)	
1848-57	192	436	62	346	391	
1858-65	100	227	32	181	204	
(1866-67)	(42)	(95)	(12)	(68)	(81)	
1868-77	79	179	28	150	169	
1878-87	62	147	21.2	120	133	
1888-97	44	100	17.6	100	100	

Comments on the averages.

87. A few brief comments about the figures of each period are necessary.

Prior to 1828.—The price of paddy is obtained from Khurda and Cuttack sources. The Cuttack average is peculiarly reliable and does not differ more from Khurda average than one would expect, the former being a town average and the latter a mofasal. The price of rice is obtained from Balasore and Cuttack sources. The Balasore materials are scanty, the Cuttack fairly reliable. The index figure for the period is 323.

1828 to 1837.—This is the period for which we have least information. I have searched the Puri ruidads in vain for facts about prices. Although the assessments in many parganas were made on the basis of a half produce converted with certain deductions into a money rent, there is no information either as to the estimated amount of produce or the conversion rate.

It is much to be regretted that information on these points was not included in the ruidads. The paddy average is a Khurda average and is probably unduly high. The rice average is of Balasore, is derived from incomplete data, and is probably unduly low. The resultant general average is perhaps not far out. The index figure for the period is 295.

1838 to 1847.—Information is tolerably complete for all districts. Paddy prices appear to be higher than the corresponding rice prices. The decade divides into two portions 1838-42, when prices were abnormally high, (this was the time when settlement operations were going on), and 1843-47 when prices were abnormally low. The index figures of the decade is 320, of the first half 222, and of the second half 420.

1848 to 1857.—Information is tolerably complete. The low price of the second half of the previous decade continued. The index figure of the period is 391.

1858 to 1867.—This must be divided into two portions—1858-65 and the two famine years 1866-67. Years of drought and scarcity have been included in other decades, but the violent interruption to prices in the years of the great famine is altogether exceptional. Recorded prices of these two years are the prices of imported grains rather than of local produce. The index figure of 1858-65 is 204, and of the famine years 81.

1868 to 1877.—Information is complete and reliable for both paddy and rice. The index figure of the period is 169.

1878 to 1887.—Similarly complete. The index figure is 133.

1888 to 1897.—Reliance may be placed on the average taken as the starting point from which the percentages of previous decades are deduced.

General history of prices in Orissa. 88. The general history of prices in Orissa may be summed up as follows:—

From the conquest up to the beginning of the last settlement, prices were about three times lower than they are at the present day. For five years during which resettlement operations were being conducted prices rose about 50 per cent. but the level reached was still 50 per cent. below that attained in the present decade. Prices were still twice as low as at present. Then came a violent and long-continued fall in prices extending over nearly fifteen years, when the rupee purchased nearly twice as many seers of paddy and rice as it had done during the five years of resettlement. In the eight years that followed this period of abnormally low prices, prices returned to the level they had reached in the years of the settlement operation. Then came the two years of the great famine, when there was no grain in the land and one-third of the population perished. The average prices of these two years do not much exceed the average of the decade just past, but the average of the two years are of course much lower than the point reached in the worst months of famine, when starvation prices reigned, and common rice, when at all procurable, was selling at 6 seers per rupee. After this violent disturbance, prices resumed their normal course. During the thirty years that followed the famine, prices have maintained a steady upward tendency, the stages being marked by the figures 169, 133 and 100.

89. In appendix XVI the prices of rice as recorded in the books of the Chakla Kanun goes of Puri district have been thrown into tabular form. Three typical months of the year have been taken, viz., January, June and September, and prices for 1887 to 1898, where the information was available, have been entered. These figures will, it is hoped, prove useful when the question of enhancing rents or of revising the new settlement comes up 15 and 30 years hence. The statements from which the table is compiled have been attested by the Kanungos in the presence of responsible gazetted officers. The commencement of the new settlement is coincident with the opening up of railway communication between Orissa and the rest of India. It will be interesting to watch what effect the expected development of trade will have on the course of prices in Orissa. Prices still remain here at a lower level than in the adjoining presidency of Madras and in Bengal proper. There is every reason to believe that the railway will effect a gradual levelling-up, and as it has been shown in a previous section of the report that not much is to be expected from the reclamation of land now lying waste, prospects of revenue enhancement at the next revision of settlement must depend almost entirely on the history of prices during the next thirty years.

PART III.

ANALYSIS OF RIGHTS AND INTEREST IN THE SOIL.

90. The rights possessed in varying degrees of fulness by those responsible for the payment of land revenue in times of the Moguls and the Mahrattas have been described in para 81 above. There was a custom of hereditary succession and of transfer limited only

by the necessity of obtaining the sanction of the ruling power. This sanction was usually obtained by the payment of a large present, but the present was not always sufficient to prevent official alienation in favour of others. The tenure of office was therefore insecure. As regards rents and revenue, the zamindars and talukdars and mozkaries collected all they could from their estates, whether in the shape of rents, cesses, transit dues, fees for creation of undertenures, or proceeds of new cultivation, and were responsible to their own lords for the settled revenue. In default, they were imprisoned or compelled to part with their estates by private sale.

Incidents of the zamindari rights and the obligation of the zamindars.

91. The incidents of the zamindar's right as they become stereotyped during the early British Settlement, and as they have developed in the

course of last settlement, are as follows :—

- (1) Absolute heredity.
- (1) Absolute power of transfer.
- (3) Fixedness of revenue demand for term of settlements. The revenue demand was at last settlement a fixed percentage, usually 65 per cent. of the estate assets.
- (4) Rights in hustabud villages to all the profits of new cultivation and to the increase rents not fixed for the term of settlement.
- (5) No claim as of rights to remission of revenue in years of drought, inundation, or other calamity.
- (6) No obligation to grant remission of rents to raiyats (except during last settlement in Rahang, Serai and Chowbiskud. In the present settlement the claim to remission has been nowhere inserted in raiyati khatians.)
- (7) Right to the profits arising from the jungle waste and unassessed areas of hustabud villages subject to prescriptive rights to pasturage, fuel, common and roadway lands possessed by raiyats. The right to the produce of fruit trees extended also to trees standing on pahi lands.
- (8) Right to create intermediate tenure and to grant leases limited by section 52, Act XI of 1859, which with certain exceptions renders all such annulable by a sale for revenue arrears. The exceptions are leases of land whereon dwelling-houses, manufactories or other permanent buildings have been created, or where gardens, plantation, tanks, wells, canals, places of worship or burning or burying grounds have been made, or where mines have been sunk.
- (9) Obligations to maintain patwaries and chowkidars, where provision was made for such, and to perform patwari duties where no provision was made.
- (10) No right to levy illegal cesses.
- (11) Obligation to recover rent by legal processes only.
- (12) Liability of estate to sale for arrears of revenue and right of proprietors to balance of proceeds left after the liquidation (a) of the land revenue arrear, and (b) of the arrears of other public demands.
- (13) Right to separate enjoyment of subordinate interests (e.g., the mukaddami interest) acquired in the course of settlement.
- (14) Liability of private lands (nij-jote and nij-chas) to pass to the new purchaser at a sale for land revenue arrears.
- (15) Right to engagement at the revision of settlement, subject to the proviso that Government may exclude on ground that admission would endanger the public tranquillity or otherwise be seriously detrimental.
- (16) Right to malikana allowance of, not less than 5 per cent. and not more than 10 per cent. in case of recusancy.
- (17) Obligations to register mutations by succession, transfer, or otherwise, and to supply certain information required by the provisions of Act VII (B. C.) of 1876.
- (18) Right of co-sharers to open a separate account for the payment of a share of the total land revenue demand calculated according to the extent of their ascertained interests, or of their separate possession, under sections 10 and 11 of Act XI of 1859.
- (19) Right to partition of share in estate under the provisions of Act VIII (B. C.) of 1876.
- (20) Obligation to give information to Magistrates and Police in certain criminal matters.
- (21) Obligation to supply rasad (provisions and other supplies) to passing troops, &c., on demand of Collector or other revenue officer.

22. Certain of the above defined incidents call for special notice. Zamindars have not always in the course of settlement been careful to confine themselves to their rights or to carry out their obligations.

Incident (5).—The only year in which considerable remissions have, since the completion of the settlement of 1840, been granted was the year of the great famine of 1866. No remissions have been granted since that date.

Incident (6).—Remissions of rent are rarely granted. The balance of arrear payment is as a rule carried on from year to year. The remissions granted to raiyats and tenureholders

in Rahang, Serai and Chowbiskud recusant estates have been the subject of special consideration in the completion report of these estates. In killa Rahang, pargana Chowbiskud (managed by Court of Wards), the Collector as zamindar has remitted the amount of proprietary allowance from collections in villages that have suffered total loss of crop. In killa Kokal, pargana Chowbiskud, raiyats have pleaded loss of crops as a claim to reduction of rent for which suit was brought in the revenue Court and have obtained reductions proportioned to the loss of crop.

Incident (7).—The chief miscellaneous sources of income are :—

- (1) Sale of timber and fuel.
- (2) Sale of fruit-tree produce.
- (3) Levy of grazing fee.
- (4) Produce of fisheries.

Each of these will be discussed hereafter in separate paragraphs. The extent to which zamindars exercise rights over the timber and produce of fruit-tree standing on the lands leased to raiyats,—rights which vary considerably from estate to estate and from village to village—will also be separately discussed.

Incident (9).—Where no special provision was made, the duties were either neglected or perfunctorily performed.

Incident (10).—The prohibition was honoured more in the breach than in the observance. The subject of illegal cesses is discussed in para. 224 below.

Incident (11).—Previous to the enactment of Act X of 1859, raiyats especially of pahi lands were ousted from their lands for default in payment of rent without resort to legal process. Act X of 1859 imposed on landlords the necessity of going to the courts, but many landlords, even after the passing of the Act, have been able to trade on the ignorance of pahi raiyats and to oust them from their holdings without the help of the law.

Incident (14).—In many cases the new purchasers have allowed the dispossessed zamindars to retain a portion of their private lands as pahi raiyats. In other cases the old zamindars have continued to evade the law by entering their private lands in the names of relatives and servants previous to the sale. This is said to have occurred, for example, in the case of Kotdesh and Lakshmi Narayan, both recently sold for revenue arrears.

93. It remains only to consider whether, and if so how far, the incidents of zamindari rights will be affected by the present revision of settlement. The zamindars have been called upon to sign kabuliyats in which the principle of the above recited incidents have been incorporated. Some of the incidents have been expressed more definitely than at last settlement, and some in a form which has called forth violent protestation from the whole body of zamindars.

Copies of the sanctioned forms of kabuliyat are attached in Appendix J for easy reference.

The clauses in the kabuliyat (Form A) which call for notice are Nos. 5, 6, 7, 8 and 9. Clauses 6 and 8 are merely a clear exposition of the duties of zamindars as regards lands that have been reserved for grazing and other purposes, and as regards their liability to be called on to furnish information to the Collector or other revenue authority. Objection is made to the proviso which obliged the zamindars at the instance of the Collector to prosecute trespassers on the reserve lands. But this is not a serious objection. The clauses that have excited most clamour are Nos. 5, 7 and 11.

94. Clause 5 reads : "I recognise and admit that Government has the right to maintain or abandon any public embankment or drainage work upon my estate or on neighbouring land,

and that payment of land revenue of my estate is not to be dependent upon such maintenance, or to be affected by such abandonment." This strikes one as a somewhat harsh statement of what has doubtless been the situation throughout the last settlement. No zamindar has, so far as I am aware, ever attempted to contest the right of Government to meddle with embankments, and no zamindar has to my knowledge ever set up a claim as of right to remission of revenue on the ground of alteration in embankment (e.g., in the case of the decision to leave open the Adlabad breach of the Bhargovi, a decision which ruined many of the zamindars of parganas Purbaduai and Oldbar). But because there has been in the past a tacit recognition of Government right, it seems a little unfortunate that the right should now have been expressed in language which appears to exclude not only the legal claim, but also the grace claim. It states a principle which it would be inequitable to carry out in our uncompromising fashion, and which Government has probably no intention of applying without limitation. The high assessment of Kotrahang pargana for example is only possible, because of the immunity from inundation secured by the right embankment of the Bhargovi. If Government found it expedient to abandon this embankment, it could not in justice do so without revising the revenue settlement of the pargana. It would have been better in my opinion either to have left out this clause altogether, or to have expressed it differently ; but I submit my opinion with all due deference, as I took no part in the discussions which preceded the drafting of the kabuliyat.

25. Clause 7 is an admission on the part of the zamindars that Government has a right

Comments on clause 7 of the kabuliyat. to all minerals on the estate except laterite and limestones. The zamindars all object to this admission, and claim that the right to minerals is vested in them. They point to section 52 Act XI of 1859, which mentions as one of the leases not voidable by revenue sale, "lease of lands where mines have been sunk," to the expression "actual proprietors of the soil" occurring everywhere in the regulations, and to the custom of conveying minerals along with land in deeds of zamindari sales as evidence in their favour. It is a point of law on which I believe the highest legal opinion has been taken. There is certainly nothing in the origin of the zamindari right to justify the claim of the zamindars, and there is nothing to show that the right was either explicitly or implicitly given away to them when they were recognised as actual proprietors of the soil at the conquest, or in the course of the various settlements that followed. It is not a question of much importance so far as this subdivision is concerned, as mineral wealth is not likely to crop up in the alluvial lands of the Southern Delta.

96. Clause 11 is an acknowledgment of liability to have the estate taken over khas on

Comments on clause 11 of the kabuliyat. breach of any of the conditions of the kabuliyat, or failure to perform any of the duties entered in the kabuliyat. The zamindars object to this as setting up a disability to which they have not hitherto been subject. It is, so far as I can see, merely a forcible expression of the proviso in section 3, Regulation VII of 1822, that if the continuance or admission of a zamindar who has engaged, or may claim to engage, would "endanger the public tranquillity, or otherwise be seriously detrimental," the estate may be held khas. It seems to substitute the Board of Revenue for the Governor-General in Council as arbiter of the necessity, and it seems to define danger to the public tranquillity and serious detriment by breach of condition and failure to perform duty. This closeness of definition makes the penalty very sweeping, and places the zamindar at the mercy of the revenue authority very much more than he has been in previous settlement. As it is not presumably the intention of Government to enforce the penalty save in very exceptional cases, it might have been expressed in a less unpalatable form.

97. Most of the zamindars and proprietary tenure-holders at the time of executing

Objection by zamindars and proprietary tenure-holders while executing kabuliyat. kabuliyats filed petitions in which they stated that they signed subject to reservation of their objections. The petitions of objections were received because I understood that the conditions of the kabuliyat had not been finally settled, and that similar representations were being received in Cuttack and would be forwarded for the consideration of Government. If, as appears probably, it be decided by Government to retain the clauses in dispute and to take over khas the estates of those zamindars who refuse to sign the kabuliyat in its entirety, then another opportunity must be afforded to the objecting zamindars of stating whether they are willing to engage under the original conditions, or whether they prefer to be recusant and receive malikana.

Since the above was written, I am not aware whether the terms of the kabuliyat have been modified, nor whether the objecting zamindars, &c., have been called upon to sign again.

98. It has been proposed to modify the clauses of the kabuliyat in two cases—(1) in

Modifications proposed in the kabuliyats of the flooded parganas of Purbaduai and Oldhar; Purbaduai, Oldhar, Serai, Chowbiskud and Rahang. (2) in the three large estates of South Puri at present held khas on account of the recusancy of the proprietor. In the former case, the proprietors will be asked to sign for a sadar jama with a part remission for the first five years of settlement. Whether the remission will be continued or altered at the end of five years will be decided then, and the proprietors will be allowed to say at the time of revision whether they will continue under engagement or prefer to receive malikana. In the latter case some special provisions are proposed to be added with the object of protecting the raiyats and tenure-holders who for nearly 90 years have been under khas management. Details of the special conditions in both cases will be found in the estate reports.

RIGHTS IN TREES.

99. This is a subject which is surrounded with much difficulty. It formed one of the

Rights in trees, heads of enquiry in the village notes and in most villages a statement of the prevailing custom has been recorded in vernacular by an assessment muharrir who reproduced the opinions of the zamindar, tenure-holder or raiyat consulted by him. For Kotdesh pargana enquiries were made in many villages by Mr. Nathan, and the results recorded in his own hand in his village notes. The evidence is most conflicting and shows that the custom varied not only from pargana to pargana and from estate to estate, but also from village to village within the same estate.

100. The following is a note of the main differences that I have found:—

- (1) In many hustabud villages of Kotdesh, it is said that thani raiyats have full rights to plant, enjoy and cut trees in their own lands.
- (2) In many mukaddami villages of Kotdesh it was admitted by thani raiyats that they could not cut any tree without the permission of the mukaddam.

- (3) In a great number of villages the mukaddams and raiyats did not agree as to the extent of the latter's rights.
- (4) In most villages it was found that the pahi raiyats had no right to cut any tree without permission, but in some cases their right to cut trees standing on their homestead lands was admitted.
- (5) In Lembai two Assistant Settlement Officers, Babu Akshoy Kumar Sen and Babu Shyama Charan Sen, gave it as their finding, that thani raiyats enjoy the produce of, and may cut down trees grown on their own lands without permission, except bamboo and trees of small value.
- (6) In other parganas there is diversity of record. I quote some cases.

Mauza Balpur, pargana Kotrahang—Thani and pahi raiyats may enjoy the produce, but the trees belong to the zamindar.

Mauza—Pargana	}	Raiyats (thani and pahi not distinguished) enjoy the produce, but cannot cut any trees except bamboo or trees they have planted themselves.
Inchole—Oldhar.		
Astrang Astrang.		
Madhipur—Damarkhand		
Kantapara—Tapa Kanman.		

Various villages of pargans Banchas.—Lakhiraj and thani raiyats cut and enjoy without permission.

Uchhupur pargana Paschimduai—thani raiyats may cut and enjoy without permission, pahi raiyats may not. All may plant without permission.

In some hustabud villages of Kotdesh the raiyats claimed rights over trees standing on the waste lands of the village. In mauza Jaipur of pargana Rahang the raiyats claimed, in a section 106 case before Babu Suderson Das, Assistant Settlement Officer, to have exercised the right of taking the fruits and cutting the timber of trees standing on waste lands of the village. Their claim was rejected. An appeal was lodged before the Special Judge, but I have not heard with what result.

101. In the village note of mauza Pratapsason, Mr Nathan has quoted the opinion of Nitai Mahanty one of the chief mukaddams of Kotdesh. He said that it was the general custom of the pargana that no tree was cut without permission of the zamindar or mukaddam that in hustabud villages this rule was always observed up to the death of Bhagaban Raitsingh, the former zamindar; that since the quarrel of his two sons who succeeded as zamindars, and the general mismanagement of the estate by inefficient servants, the rule had fallen into disuse. In mukaddam villages, he said, it depended on the relations of the mukaddams and raiyats; if they were on good terms, the mukaddams did not insist on their permission being obtained.

Another cause for the diversity of custom I find to be the following. Where the zamindar or tenure-holder is strong he has usually been able to maintain the old custom which necessitated the obtaining of his permission to cut trees. he has also been able to insist on getting the whole or a share of the produce of trees standing on the pahi lands. But where the landlord has been weak or absentee, and the raiyats wealthy or powerful through combination, the tables have been turned. Thani raiyats have exercised full right to plant, enjoy and cut trees. Pahi raiyats have enjoyed the produce and been able without permission to cut all but the big fruit trees.

102. There is a further complication, viz., that distinction that has been drawn between thani and pahi raiyats in our land record does not apply to the exercise of rights in trees. It has been shown in another portion of the report that a very large number of the so-called pahi raiyats are resident cultivators in no wise differing from the old thani raiyats. The Orissa landlord in his treatment of his raiyats does not differentiate between thani and pahi as classed in our records, but between resident and non-resident cultivators; that is, if a pahi raiyat has his home in the village, he exercises as a rule the same right as his thani neighbours, and it is only the non-resident cultivator whose claim to enjoy the produce and to cut down fruit-trees would generally be denied by the zamindar.

103. Looking to the extreme diversity of opinion and variation of practice described above, it is not possible to do more than indicate what is the generally obtaining custom in the district. If in a particular case a claim be set up that is at variance with the general custom, or if a right generally allowed be disputed, then it will be for the party who sets up the claim, or who disputes the rights, to prove that he has local custom on his side.

The general custom, so far as I can ascertain, may be set forth as follows—

- (1) Baziafti raiyats have full rights to plant, enjoy the produce of and cut trees in their own lands.
- (2) Thani raiyats have full rights over trees of all kinds standing on their homestead lands. They may without permission plant new trees or cut down those standing; but they have only a right to the produce of trees standing on lands other than homestead lands. They may not cut them down, nor may they plant new trees without permission. To convert a plot of cultivated land into orchard would render a thani raiyat liable to ejection under the provisions of section 25 of the Bengal Tenancy Act.

- (3) Pahi raiyats who are resident cultivators have the same rights in trees that thani raiyats possess, except that they may not cut down any valuable trees (Palang, Jack, Mangoe, Coccoanut, Banian and Aswatha) whether in their homestead or other lands without the permission of their immediate landlords.
- (4) Pahi raiyats who are not resident cultivators have no rights whatever either to the timber or produce of trees standing on their lands.
- (5) No raiyats have any claim either to the timber or produce of trees standing on unleased land. These belong absolutely to the zamindar in hustabud villages and to the proprietary tenure-holders in mourasi villages.
- (6) In the khas mahals every one enjoys the produce of trees standing on his own holding, but no tree may be cut without the permission of the Collector, whether it stands on a thani or pahi holding, and the timber of all trees which get blown down or withered, whether in sarbarakari (miadi or maurasi), mustageri or hustabud villages is sold by order of the Collector and credited to Government.

HISTORY OF MUTATION OF ZAMINDARY RIGHTS.

104. It has been already shown that the first portion of the history of zamindari rights in Orissa was a history of the gradual development of native Uriya revenue agents into hereditary officials, and a recognition of these hereditary officials as proprietors of the soil at the British conquest. It has been the fashion to speak compassionately of the era which followed as a period fought with ruin to the old land-owning families. Much of this compassion is to my mind wasted, because in the first place the so-called Uriya proprietors were not old landed families, and in the second place they were not a whit more kindly in their treatment of raiyats and tenure-holders than the Bengali amlas who succeeded them. Mr. Toynbee, at page 53 of his History of Orissa, writes as follows of the operation of such laws and the extinction of old Uriya proprietors:—

"This measure ruined most (Mr. Ewer says two-thirds at least) of the old Uriya proprietors and transferred their lands to rich absentee Bengalis and to the amlas of the courts. . . . These (Bengalis) seldom or never visited their purchases, but entrusted the management of it to agents of their own kith or kin who were aliens to Uriyas both in race and language. Far removed from the control of their principals, these lived in a style quite sufficient of itself to swallow up the legitimate profits of the lands entrusted to their care. The Old Uriya landholders whom they succeeded were equally prodigal and reckless, but at least some part of the money they squandered benefitted their poorer dependents, and a great part of it was spent on religious ceremonies. Lax in paying their revenue, they were equally lax in collecting their rents and they always respected the rights of the subordinate tenure-holders." This may have been a true picture of what happened in Cuttack and Orissa generally, but it is not very applicable to the Puri district. The largest estate of the Division, viz., Kotdesh, was held by one of the class of exalted Uriya revenue agents, namely, by Trilochan Patnaik, and far from respecting the rights of the subordinate revenue agents, we find Sterling write thus of him:—

"On taking possession of the zamindari, it naturally became an object with Trilochan Patnaik to get rid of the talukdars or intermediate managers of the several principal divisions as speedily as practicable, gradually by taking advantage of opportunities of purchasing as they fell into arrears and by measures violence and intimidation."

That the raiyats and tenure-holders did not stand in any great terror of the Bengali amla would seem to appear from a curious incident in the history of the Delang estate (Lembai). In 1805, after the Raja of Khurda had forfeited the estate, the question was whether engagements should be taken direct with the Padhans. The Padhans came forward in a body relinquishing their rights in favour of one Nilmony Chowdhury, an inhabitant of Hugli, and requesting the Collector to take engagements from him. Before effect could be given to this arrangement, the Collector was changed, the Raja of Puri's claim was revived, and he was finally restored in 1808.

105. If attention be confined to the Puri district, there is again not much evidence of any considerable transfer of estates from the old Uriya proprietors to the alien Bengali amlas.

Transfer of the zamindari right from old Uriya proprietors to the Bengali amla.

More than two-thirds of the district revenue is derived from ten estates, of whose history I will give a slight sketch. They are—

Kotdesh (Rs. 81,082) remained in the hands of the original Uriya family up to 1896.

Krishna Chandra, Krishnanagar, Rahang (Rs. 58,139). Originally held by the Raja of Khurda, forfeited in 1805, held khas till 1809, sold by Government for convenience of revenue collection to a Bengali family which rescued in 1812; held khas since.

Delang (Rs. 33,754) forfeited by the Raja of Khurda in 1805, held khas till restored to the Raja of Khurda in 1808, rescued in 1817, held khas till 1845, when the Raja re-engaged.

Kokal (Rs. 5,551) remained in possession of an Uriya jagirdar up to last settlement : after settlement, sold by civil court to a Bengali zamindar of Cuttack.

Kotsahi (Rs. 5,434), originally held by an Uriya family, bought at revenue sale in 1220 by a Bengali family and remained in the family since.

Pipli (Rs. 4,524), held without break by an Uriya family up to date.

Rorang (Rs. 4,511) in possession of an Uriya family up to last settlement. The same family still retains a 12 annas share.

Golera (Rs. 3,604) originally in possession of an Uriya jagirdar, passed by civil court and private sale to mahajans and others, mostly Uriyas.

From these notes it will appear that it was only in one of the ten larger estates that the sale laws transferred possession from an Uriya family to the Bengali amla. The three khasmahals which became the property of the Paikpara Rajas were sold for convenience of collection on much the same principle that led Mr. Collector Growse to recommend the petition of the Lembai Padhans.

106. The history of the changes that have occurred in the ownership of zamindars in the course of the last settlement has been detailed in the special report on each estate. As a general observation, it may be said that where ownership has passed from the old zamindar families of last settlement it has fallen into the hands of the great religious foundations and the priestly classes of puri, or into the hands of larger mahajan families of this district and Cuttack. The most important landowners of district are on the one hand—

The Raja of Puri, Superintendent of the temple.

The mohants of the Imarmath Uriya, Uttarparswa, Dakhinparswa Raghobdas, Narsing Kote, Lakhibhadra and Gangamata maths.

The Khuntias, a family of the Puri Pandas (pilgrim guides), and on the other hand,

The Chowdhury Dasses of Bingarpur, an Uriya family of Bramhan mahajans ;

The Chowdhury Sahus of Kerlo, an Uriya family of Teli mahajans ;

The Panis of Kotrahang, an Oriya family of Bramhan mahajans ;

The Bhagats of Cuttack, a north-west mahajan family ;

Behari Lall Pandit of Cuttack a Cashmere Bramhan mahajan, now resident of Cuttack,

The Raja of Puri holds estates with a former revenue of Rs. 36,000 ; the priests and mohants hold estates with a revenue of Rs. 40,000 ; the mahajans hold estates with a revenue of Rs. 82,000. This accounts for Rs. 1,58,000 out of a total demand of Rs. 2,20,000 (khas mahal excluded). Not more than Rs. 5,008 represent estates which at last settlement were in the hands of the same families as at present. It may be said that about one-half of the zamindari interest in the district has passed to the religious and usuring classes.

107. The story of the Kotdesh estate is the most striking as well as the most important illustration of the process. Up to fifteen years ago it was managed by Bhagwan Raitsingh, a

businessman with much force of character, doubtless inherited from Trilochan Patnaik, who founded the family in the days of the Mahrattas. Under his management the estate flourished and was able to supply funds for the purchase of intermediate interest and small zamindaris. Bhagawan Raitsingh, left behind him two sons, who being persons of weak intellect and animated with the barbaric love of display which distinguished most of the old Uriya proprietors, at once plunged into a career of dissipation and extravagance. The estate was utterly neglected and grossly mismanaged. Debts accumulated and were increased by renewed bonds and other artifices of the mahajans. When 15 years' possession had raised a debit account of nearly 10 lakhs, the estate was put up for a two years' arrears of revenue and purchased by the chief bond-holders of the old zamindars. They were the Bhagats of Cuttack, the Choudhury Dasses of Bhingarpur, and the Mohant of the Imar math.

108. The transfer of zamindari rights to the religious and usuring classes is no great matter of regret. The raiyats find a better friend

Transfer of the zamindari right to the religious and usuring classes.

in such landlords as the Mohant of the Imar math than in effete and degenerate descendants of old families. The Mohant raises and maintains bundhs, helps his raiyats in time of calamity with loans of seed grain, feeds them when starving in years of scarcity, and generally seeks to secure his revenue by securing his rents. This can be said of few landlords in the district, either past or present. As a rule they do absolutely nothing either for the welfare of their raiyats or the improvement of their estates.

"The landholders are needy and indigent, especially the smaller proprietors, who constitute at least half of the whole number. Their improvidence of disposition is commensurate with their inferiority in the scale of civilisation and refinement, and with this is combined a propensity to wanton extravagance, which would appear inveterate." This is a description which is as true to-day as it was when written by Mr. Ker at the beginning of the century.

VALUE OF THE ZAMINDARI RIGHTS.

109. Of the early fluctuations in the value of zamindaries, we have evidence in para. 84 of Mr. Sterling's minute.

"From the year 1809, when the market began to recover from the glut occasioned by Mr. Webb's sales down to the present date, the price paid for estates has been constantly on the increase. The average selling price is now from 50 to 100 per cent. on the sadar jama or from 15 to 20 years purchase of the admitted and recognised profits, which surely cannot be considered an inadequate price for land in a country circumstanced like India. Instances, too, are continually occurring where the sum paid rises beyond the above average. In the September sales an estate assessed at a jama of sicca Rs. 196 went for sicca Rs. 1,010 and an 8 annas share of a village paying sicca Rs. 160 for sicca Rs. 330. How different the sales under native administrations? After carefully examining a vast number of bills of sale of old date, I can confidently affirm that from one-fourth to one-half of the jama was the ordinary selling price of the zamindari or talukdari of any village or number of villages, the 'Saman adlo qunmut raijool waqt' both in the Mogal and the Mahratta times."

110. It is difficult to obtain precise information as to the market price of zamindaris at different periods during the term of last settlement. The registers of the Land Registration Department maintained by the Collector are defective, in that they give only the number of mutations and amount of Sadar jama of the estates concerned. They do not distinguish purchases from succession, nor give, as regards the former, the amount of consideration money passed. The returns of the Registration Office are equally defective, as they give only the number of transfers and the amount of consideration money, and not the sadar jama of the estates transferred. Thus it is of little interest to know that during the last seven years—1891-92 to 1897-98—there has been 351 transfers of estates, and that Rs. 1,38,361 was the price paid. The figures include revenue-free estates, and do not even afford an idea of the extent to which revenue-paying estates from the subject of speculation.

111. The information that has been recorded in the special reports on estates is incomplete, because assessing officers were not always careful to record estate histories in the mofasal, and it was often impossible to supply the omissions afterwards, as zamindars did not always appear to bear the proposed new jama. From the reports, however, I extract the following note about prices paid in private sales; 21 estates for which we have information bearing a sadar jama of Rs. 3,385 were sold chiefly within the last 20 years of settlement for Rs. 55,510.

The average selling price was Rs. 1,640 per Rs. 100 of sadar jama.

The 21 estates are mostly of pargana Kotrahang and Paschimduai, which are protected from flood. Four estates in Purbaduai, Oldhar, with a sadar jama of Rs 683, sold for Rs 4,450 or for less than eight times the sadar jama. That estates should sell for sixteen times their sadar jama is a remarkable proof of the increase of zamindars' profits since last settlement.

WORKING OF THE REVENUE SALE LAW IN THE COURSE OF LAST SETTLEMENT.

112. The total number of estates or shares of estates that have been sold during the course of the last settlement has been 27, and the sadar jama of the estates sold has amounted to Rs. 92,359. A clear light will be thrown on the working of the sale laws if the distribution of the sales over decades be looked to. This is given below :—

Period.	Number of estates or shares of estates sold.	Amount of sadar jama.	Price paid.	REMARKS.
1	2	4	4	5
		Rs. a. p.	Rs. a. p.	
1838—47	.....	.....	.....	
1848—57	5	2,823 6 11½	12,500 0 0	
1858—67	2	478 6 8½	7,050 0 0	
1868—77	1	155 13 1½	2,800 0 0	
1878—87	3	1,387 6 6½	13,951 0 0	
1888—97	16	87,514 7 8½	1,86,585 0 0	

INCIDENTS OF THE PADHANI AND MUKADDAMI TENURES.

113. As the incidents of the padhani and mukaddami tenures differ only in one trifling respect, it will be convenient to discuss them together. When Orissa came into the hands of the Moghals, four parganas—Lembai, Serai, Chowiskud and Rahang—together with killa Khurda were left to the Raja of Khurda as his personal demesne. The village headmen responsible to the old Hindu officers for the village revenue were called padhans. In the tracts taken over by the Mahrattas the name was changed to mukadem, and under the less close management of the Moghals, the rights of the mukaddams developed, and became superior to those owned by the padhans, who still remained in four parganas of the south. But in 1760 the Raja of Khurda was compelled to relinquish these same parganas to the Mahrattas. Under the Mahrattas they were managed khas, and they continued to be managed khas when first taken over by us in 1803. During this period of khas management the padhans acquired more than equality with their brother headmen in the Mogulbandi, and their claims to be regarded as proprietary tenure-holders were fully acknowledged at last settlement. The incidents of the tenure as then settled were:—

- (1) The tenure is hereditary.
- (2) It is transferable.
- (3) It is divisible, but no division of rents can be made without the consent of the zamindars. Any division of rent allowed by the zamindar for the time being would be binding on his successors in interest, but would be annulable by the auction-purchaser at a sale for arrears of revenue.
- (4) The padhan exercises the same proprietary rights within his village that the zamindar exercises in hustabud village.
- (5) The padhan is a proprietor of a share of the rental of the village. His allowance is usually 20 per cent. of the village assets, and the amount payable by him to the zamindar is fixed for the term of settlement.
- (6) In default of payment of rent, the tenure is sold under the provisions of Act X of 1849, and the balance of the purchase-money left after liquidating the arrear is paid to the defaulter.
- (7) The padhan is entitled to 5 per cent. malikana in case of recusancy.
- (8) In the event of recusancy, he is entitled to a claim of re-entry at the ensuing settlement.

The incidents of the mukaddami tenure differ from those of the padhani only in one respect, viz., that the mukaddam is not entitled to a claim of re-entry in the settlement following that in which he recuses. There are one or two inferior mukaddami tenures which will be noticed below when discussing meadi sarbarakari tenures. The above description does not apply to them.

114. No alteration has been made in the incidents of the padhani and mukaddami tenures in the course of the settlement, or by the terms of the new settlement. But as the case of zamindars the new kabuliyat that is being executed by mukaddams, padhans and other village tenure-holders defines more clearly than before the nature of their duties in the matters of furnishing accounts and other information to revenue officers, excludes minerals from the scope of their proprietary rights, adds to their responsibilities the duty of looking after the reserved lands, and extracts an admission that the Government policy as regards embankments will not affect the revenue demand. The tenure-holders have petitioned against the the legality and equity of these clauses in the kabuliyat, and the result remains to be seen.

115. The only incident of the tenure which calls for special remark is that which I have numbered 3. This is, I think, most important, save in the few cases where the last settlement records showed that a division of the rental had been allowed by the revenue officers of last settlement, and the few cases in which the division of rent had been allowed to padhans in the khas mahals by the Collector, the kabuliyat for the village revenue has been executed jointly by the mukaddams and padhans, whatever may have been the number of share-holders and the nature of the division into shares, and whatever may have been the collection arrangements previously existing between the zamindar and the proprietary tenure-holder. The mukaddams and padhans were clamorous to have revenue demand payable by each sharer separately recorded on the kabuliyat, and argued that they were entitled to this concession in cases where they had been already paying rents separately to the zamindar and had the division recorded in his serista. I have steadily refused to grant this request, as I do not think that any such division would be binding on the auction-purchaser at a revenue sale. It is contrary to the principle on which the recognition of the village tenure-holder is based. The tenure-holder gets a large commission on the assets of the village for the trouble and risk of collecting the small sums due from individual raiyats, and the zamindar gets a small allowance because the trouble and risk of collecting from an individual is supposed to be small. But the divisibility of

the mukaddami and padhani interest having been recognised at last settlement, the tenure-holder has in many cases ceased to be a single individual, and is often represented by a group of as many as 40 and 50 sharers. If the zamindar in return for a large consideration accepts the responsibility of collecting from 40 or 50 persons instead of from one, it is not right that the auction-purchaser at a revenue sale should be penalised by this serious encumbrance to the work of collection. It is necessary as a safeguard to the security of the Government revenue that the whole tenure should remain ultimately responsible for its total revenue, and this result can only be obtained by refusing to recognise the divisibility of rent as opposed to the divisibility of interest.

DISTRIBUTION OF PADHANI AND MUKADDAMI TENURES.

116. Kotdesh is the stronghold of the mukaddami interest, and the four parganas, Rahang, Serai, Chowbiskud and Lembai, of the padhani interest. The following is a list of their distribution over the completion block with the amount of the demand payable by them to the zamindars:—

MUKADDAMS.

Name of Block.	Number of Tenure.	Amount payable to zamindar.	REMARKS.
		Rs.	
West Athaisi and Matkatpatna block ...	1	149	
East Athaisi and Damarkand block ...	10	601	
Banchas ...	11	734	
Khodar ...	13	2,882	
Kotdesh ...	359	96,155	
Paschimduai ...	3	778	
Purbaduai and Oldhar ...	1	176	
Rahang ...	2	945	
Kotrahang ...	25	7,075	
Lembai ...	5	3,239	
Scattered estates ...	56	3,28	
Total ...	486	1,16,462	

PADHANS.

Name of Circle.	Number of Tenures.	Amount payable to zamindar.	REMARKS.
1	2	3	4
		Rs.	
Chowbiskud block ...	98	28,510	
Serai block ...	48	13,152	
Rahang ...	24	7,439	
Lembai ...	89	24,484	
Total	259	73,585	

The amount of Government revenue for which they are responsible may be estimated roughly at 80 per cent. of the demand payable by them to the zamindars. The demand is approximately 80 per cent. of the total village assets, over which zamindars have been allowed usually 15 per cent., and 15 per cent. of 100 is equal to nearly 19 per cent. of 80. Again, in the khas mahals, it has been proposed to give the recusant proprietors 20 per cent. of the tenure-holder's revenue. In cases also where the tenure-holders have been allowed more than 20 per cent. of the assets, the allowance of the proprietors will exceed 19 per cent. of the tenure-holders' jama.

The mukaddmi jama	...	...	Rs.
The padhani jama	...	...	1,16,462
			73,585
		Total	1,90,047
80 per cent. of this is	...	...	1,52,037

The mukaddams and padhans are therefore responsible for 40 per cent. of the total land revenue demand of the district

VALUE OF MUKADDAMI AND PADHANI INTEREST.

117. Of the extent to which the total mukaddami and padhani interest of the district is now held by purchasers as opposed to heirs, it would be difficult to give an accurate estimate without minute examination of the records and elaborate enquiry from the tenure-holders. In several of the estate reports some information on the subject has been supplied.

Mr. Nathan found that in 35 villages of Kotdesh heirs held 44 and purchasers 56 per cent. of the total interest, I find that the same proportion obtained in taluk Kotsahi of Kotrahang and in 42 villages of Chowbiskud. In 43 villages of Serai heirs held 62 and purchasers 38 per cent. Babu Akshoy kumar Sen, Assistant Settlement Officer, has found the proportions to be 70 and 30, respectively, in 89 villages of Lembai, 59 and 41 per cent. in 24 villages in Rahang. It may safely be said that about one-half of the total interest is held by purchasers and one-half by heirs.

The prices paid have varied enormously from period to period, from estate to estate and village to village. It has depended in each case mainly on the increase of assets in the course of settlements and the value of the nij-chas lands.

No figures throwing light on the subject are to be obtained from the Registration Officers, as no separate record is kept of the transfer of tenures. In the special reports on estate histories, information where procurable has been given. I have compiled from them the following note which will give some general idea of the present day value of the tenures. In 19 villages of Kotdesh, paying a mukadami jama of Rs. 6,627, the purchase money amounted to Rs. 91,840, that is, for every Rs. 80 of jama representing an original allowance of Rs. 20 over Rs. 1,100 was paid. This is only intelligible when it is remembered that the mukaddami profits had increased in sixty years by 166 per cent, and that in addition to the recognised profits there are perquisites, of which the Revenue Officers cannot take note. Rs. 1,100 yielded not Rs. 20, but Rs. 54, with an indefinite amount of extras. In 10 mukaddami villages of Kotrahang pargana the average comes to Rs. 1,153 for every Rs. 80 of jama. In 12 padhani villages of Lembai the average is Rs. 778, in 16 padhani villages of Chowbiskud Rs. 470, and in 17 padhani villages of Serai it is Rs. 263 only. The comparatively smaller amounts paid in these two lastnamed parganas is due to their unfavourable situation and to the greater uncertainty that attends collection. In the padhani villages the purchase is usually made at so many rupees per padhani bati [= 20 mans (40 each) or 8 acres]. In mukaddami villages the market rate is usually quoted at so much per pan.

PARA. 123. SUBDIVISION OF MUKADDAMI AND PADHANI INTERESTS.

118. The extent to which mukaddami and padhani interests have been split up by succession and transfer in the course of last settlement may be gathered from the following table, in which the facts, as ascertained in the chief mourasi areas of the district, have been collected:—

Name of Estate.	Last Settle- ment.	PRESENT SETTLEMENT.		Number of villages.
		Number of shares.	Number of persons interested.	
MUKADDAMS.				
Kotdesh ...	2,228	2,896	4,597	356
Kotsahi (Kotrahang) ...	47	132	210	9
Sadanandpur (Kotrahang) ...	39	39	112	6
PADHANS.				
Lembai ...	146	581	978	89
Rahang ...	46	96	135	24
Serai ...	182	449	673	46
Chowbiskud ...	141	289	412	54
Total ...	2,829	4,482	7,117	594

The increase in the number of recorded shares amounts to nearly 60 per cent., and the increase in the number of persons interested to 150 per cent. As it is possible that a number of persons, younger brothers, etc; who would have had their names recorded in the present records, did not find record at last settlement. The true increase may be estimated at a point lying between these two marks. It is safe to say that the number has at least doubled during the course of the settlement, purchased shares in 30 villages paying a total purchase money of Rs. 14,852-4-0. In villages containing a larger number of shares, it will be found that most of the land is under cultivation of the mukaddams themselves - Banmal (50 mukaddams), Olikana (increase from 6 to 21 mukaddams), Samona-Sasan (increase from 10 to 18 mukaddams), Bhimpur (increase from 3 to 11 mukaddams), Satya Bhamapur (increase from 5 to 27 mukaddams), are all cases in point.

119. It is interesting to find Mr. Ricketts (then Collector of Balasore), writing as far back as the year 1831, and prophesying the occurrence of the very evils I have been describing. He states that under the Mahratta rules a mukaddami or sarbarakari descended to a single heir to the exclusion of all other cotes as proof of this, the debadihi or village list procured from the Mahratta officer, Gopal Pandit, in which one name only is entered for each village. Starting from this point, he urges that the claim to right of inheritance, according to Hindu law, should be disallowed, and advances in support of this contention the following considerations:—

"Is there no danger in any point of view to the interests of Government in recognizing a system, the direct tendency of which is to again sub-divide property already so sub-divided that the owners are paupers? It is considered by the Sadar Board a desirable object to reduce all to the situation of zamindars and sarbarakars, whose substance I have above described?"

"The agricultural community instead of becoming richer, are becoming poorer; the effect of short crops are felt as severely as when one-half of the land now cultivated was waste, and there is as much difficulty in realizing the revenue as there was twenty years ago. This is the case. Generally speaking there are exceptions. Some of the auction-purchasers are becoming, comparatively speaking, wealthy, and their revenue is punctually paid."

"The recognition of such a right of inheritance is injurious to the zamindars by introducing numerous useless under-tenants, the difficulty of realizing rent from whom increases with their number and their reduced means."

As those who are ignorant, extravagant, or dissipated, are as much entitled to share as those qualified by education and character for the situation of a patwari, zamindars can have no choice in the selection of persons, to whom the collection of rent, on which his property depends, is to be entrusted; his expenses in recovering arrears are increased by his having to prosecute a plurality of persons, and his chance of speedy and ultimate recovering lessened, inasmuch as it is more difficult to recover Rs. 10 from each of ten paupers than Rs. 100 from one man of substance.

"The raiyats suffer from such recognition, as every increase in the number of middlemen must be prejudicial to their interest. The mukaddams, when there is a plurality, scarcely ever for any length of time continue to agree and immediately on a dispute arising, each individual mukaddam endeavours to be foremost in making collections. It was usual to allow each sharer to sue for his share, so that an unfortunate defaulting raiyat was prosecuted in three or four separate suits for the arrear of one kist or year! This I have put a stop to by refusing to admit a suit for a share in a raiyat's rent, admitting only suits instituted by all the sharers jointly, or by a common agent. But this arrangement has its inconvenience. The mukaddams complain they have no common agent and cannot agree to sue together, consequently each contents himself by exorting what he can from the raiyats in the mofasal only.

"Such a system of inheritance is injurious to mukaddams themselves, inasmuch as by dividing property already small it reduces all to a situation scarcely removed from actual want; it deprives all means of promoting any improvement in their villages, and it is the origin amongst them of ruinous and endless litigation, of ill-will, broils and blood-shed."

The table makes it clear that the average mourasi village has now instead of one representative responsible for the rent, no less than twelve persons divided over an average of eight shares. How far this affects the zamindar in the work of collection is discussed in the section that follows.

Distribution of sarbarakari tenure.

120. The distribution of sarbarakari tenures by completion of circles is as follows:—

Name of Circle.	SARBARAKARS.		REMARKS.
	Number.	Amount of demand payable by them.	
1	2	3	4
East Athaisi and Damarkhand Block...	3	233	
Banchhs	23	1,324	
Khodar	7	503	
Kotdesh	89	6,872	
Serai	11	7,400	
Chowbiskud	6	1,786	
Rahang	24	7,728	
Lembai	25	5,669	
Purbaduai	4	124	
Scattered	19	779	
Total ...	211	32,478	

The share of the sadar jama for which they are responsible may be calculated approximately at 75 per cent, of the above sum—that is, Rs. 24,300

121. In para. 130 of his note on the Puri tenures, Babu Nanda Kishore Das speaks of the Sikimi zamindari tenure as being peculiar to the jagir mahals (Parikud, Malud, &c). He says that the right and immunities of the Sikimi zamindars are exactly the same as those of the zamindars in other parganas, and they are so-called simply because their rent is paid, not in to the Treasury of Government, but into that of the jagirdars, who in that respect stand in the same relation to the Sikimi zamindars as Government does in relation to the zamindars in other parts of the district.

But Nanda Kishore Babu is mistaken in saying that the tenures occur only in the jagir-mahals; it is also found in the temporarily-settled area. It is so rare, however, that the separate instances may be quoted with a note of the variations that occur in the arrangements for payment of revenue demand.

TALUQ KOTDESH, TOUZI No. 44.

(1) Ghar Srirampur	...	} The zamindars received an allowance of 10 per cent, on the demand payable by the Sikimi zamindars, who got 30 per cent. of the assets.
(2) Ghar Srirampur kantaunia	...	
(3) Ghar Tarinho	...	
Pargana Damarkhand	...	} The zamindars got an allowance on the demand payable by the Sikimi zamindars, who merely paid the sadar jama calculated at the ordinary percentage through the zamindar.
Taluq Durgapur, Touzi No 230	...	
Mouza Narrnpur	...	
Pargana Athaisi, Taluq Sutan, Touzi No. 186.	...	
Mauzas Rupas and Sadanandpur	...	

Of the origin of the Sikimi zamindari in Kotdesh, Mr. Nathan writes as follows:—

"The Sikimi zamindars have arisen in various ways. Resumed bisswali (khandaiti jagiri) and lakhiraj lands of more than a certain area have been made in to Sikimi zamindari. In a Sikimi zamindari village the zamindar receives 10, the Sikimi zamindar 25. and Government 65 per cent. of the total rental. Ghar Srirampur is an interesting Sikimi zamindari mouza. The land is resumed. Khandaiti jagiri Ghar Srirampur itself, a small village consisting at the time of the last settlement of little but jungle and houses, was the seat of the khandaiti who lived surrounded by his paiks. Scattered all over the pargana are the 56 tahsil alahidas of the mouzas comprising the lands which zamindars and others had granted to the khandaits from time to time. The rights have now fallen into other hands, and the present head of the family is an amin in the Survey office."

The Sikimi zamindari of taluq Satun and taluq Durgapur probably arose in much the same way. The arrangement was found existing at last settlement, was continued for the term of settlement, and it is not proposed to alter it, I had suggested the formation of separate estates in the two cases where the zamindars received no collection allowance; but it was thought the *amour propre* of the zamindars would be wounded, if these portions of their estates, though unprofitable, were cut off. The previous arrangement has been continued.

The total jama payable by these Sikimi zamindars is Rs. 1,434-14-8, covering a sadar jama of Rs. 1,280-1-11.

Incidents of raiyati holdings.
into the following classes :—

122. So far as the legal incidents of their holdings are concerned, raiyats may be divided

- (1) Settled and occupancy raiyats holding thani lands.
- (2) Settled and occupancy raiyats holding pahi lands.
- (3) Settled and occupancy raiyats holding thani and pahi lands.
- (4) Occupancy raiyats holding phhi lands.
- (5) Occupancy raiyats holding thani and pahi lands.
- (6) Non-occupancy raiyats.
- (7) Raiyats holding lands at quit-rents, liable to enhancement on the sale of an estate for arrears of revenue.

So far as the incidents determined by local custom and usage are concerned, the division into classes is as follows :—

- (1) Thani raiyats.
- (2) Resident pahi raiyats.
- (3) Non-resident pahi raiyats with occupancy rights.
- (4) Raiyats without occupancy rights.
- (5) Chandna raiyats.

123. In order to understand how these distinctions have arisen, it is necessary to trace the growth of raiyati rights from the conquest onwards. At the conquest it was found that the cultivated lands of the Mogulbandi were tilled by two classes of raiyats—thani or resident

cultivators, and pahi or non-resident cultivators. The thani raiyat had a hereditary right of occupancy in their lands. The pahi raiyats were mere tenants-at-will. The advantages enjoyed by the former were briefly these :—

He held his homestead and garden land rent free. The thani lands were the best in the village, and the thani raiyats had the preference in the tillage of the remaining pahi area, in the cultivation of rent-free lands, and in the reclamation of nem lands. He had communal rights to pasture, firewood and thatching grass. He had a hereditary right of occupancy, and could not be ousted so long as he paid his rent. The possession of these advantages increased his importance in the eyes of his neighbours and strengthened his credit with the mahajan. On the other hand, his rent was much higher than that paid by the non-resident raiyat, and he groaned under the extra contributions and impositions exacted from him by his landlord to meet increased Government demands.

These were often so excessive as to swallow up all the profits of cultivation, and the thani raiyat, reduced to despair, was often compelled to abandon his home and the doubtful advantages of his position. The pahi raiyat paid a much lower rate of rent than his thani brother, but, on the other hand, he was liable to be turned out of his holding at any moment.

124. At last settlement there was much correspondence both about the assessment and the status of the thani and pahi raiyat. The former will be discussed below. As regards the incidents of their holdings, thani and pahi raiyats were left in much the same position as they had been found, that is, the hereditary right of occupancy of the thani raiyat was confirmed, whereas the pahi raiyat was left a mere tenant-at-will. The rents of the former were fixed for the term of settlement, and they were granted written pattas (Kali patta) which effectually checked the possibility of oppression on the part of the zamindars. There was considerable discussion as to whether pahi raiyats should not also be granted pattas, and the opinion of the higher authorities seems to have varied from time to time. In Government letter No. 1199 of 22nd August 1837, it was ruled that pattas should never be given to pahi cultivators as creating a false impression of right of occupancy. In his remarks on the settlement of taluks Krishnanagar and Krishna Chandra (paras. 6 to 8), dated 30th March 1838, Mr Lewis of the Board of Revenue strongly deprecated the grant of pattas :—"Pattas have as usual been given to all the thani raiyats, and when the sarbarakari requested it, to the pahis. The money rent, therefore, of a large number of the fields of this estate have been fixed if the settlement stands for 30 years, and supposing the present system, which makes the rent as they have been, of a particular estate the only gauge of what the rents are to be, and the only true basis therefore of a future assessment, the money rent of the said fields may be held to be fixed in perpetuity.

"7. Mr. Wilkinson is much in favour of this system of giving Government pattas to the raiyat as calculated to give him protection, and no doubt in a very barbarous state of society, when each class of the agricultural community thinks it to his advantage to pray upon the other, or at any rate thinks, like the monkey in that there is large prospect of profit by endeavouring each to eat out of his neighbour's instead of out of his own dish ; where there is no moral sense of the stringency of a mutual engagement, and where courts of justice are a mere mockery and inaccessible to the poor and lowly, these pattas may be beneficial in securing to the raiyat what has been bestowed upon him by the Government officer. But it is worthwhile to consider whether a reciprocal action of cause and effect may not be produced by the persisting in such a system ; whether the causes which originally induced the adoption of such a course may not grow into effects ; whether our perpetual interference does not in fact build up a wall of partition between the two agricultural classes who ought to be closely, and no doubt would at last be beneficially, in contact with each other ; whether by these compacts made at second-hand we do not foster distrust and maintain the present unwholesome method of doing business and whether we do not make our courts worse than they really are by treating them as if they were as bad as possible.

"8. Mr. Wilkinson anticipates that the industrious raiyat so protected will in time create for himself a valuable property. But his single miserable jote can never deserve such a title, and he can only enlarge his boundary by getting rid in some way or other of the indivisible right of the raiyat of land next to his own, and so forth. The patta system will thus fall and in such cases the artificial impediment which it opposes to the accumulation of capital in masses large enough to be useful will be removed. The *vis medicatrix nature* will then have succeeded in curing the disease with which we persist to inoculate the country."

The opinion stated so brilliantly and speciously are not only philosophically unsound, but also betray a lack of sympathy with the raiyat, and as far removed as can well be imagined from the spirit in which the local officers went to work. That they were not finally accepted by Government would appear from a letter No. 1816, dated the 25th September 1838, quoted in para. 100 of Nand Kisore Babu's report. I have not seen a copy of the letter, but it would appear to have contained a ruling that all raiyats should be protected by the provisions of Chapter I, section 9, Regulation XII of 1822, according to which no zamindar could claim in a court of justice higher rent than that entered in the settlement record, unless the same had been altered by mutual agreement. Be that as it may, the pahi raiyat, except in parganas Lembai, Serai and Chowbiskud, where Mr. Wilkinson actually distributed pattas, continued to be unstable at will by the zamindar until the enactment of Act X of 1859. This right was probably exercised by the zamindars against the pahi holdings of thani raiyats called (kotpahi) so much as against the pahi holdings of outsiders called (opor pahi).

124. The next great step in the history of raiyati holdings was the enactment of Act X of 1859. This not only defined more clearly the rights of thani raiyats, but also conferred the inestimable boon of occupancy rights on pahi raiyats who had been in possession of their holdings for twelve years or more. Pahi raiyats with occupancy rights were placed in all respects, save one, on the same footing as thani raiyats. The one distinction was that the rents of the former remained liable to alteration on the specific grounds laid down in sections 17 and 18 of the Act, that is to say, to enhancements on the grounds of prevailing rate, excess area, and landlord's or nature's improvement, and to abatement on the grounds of diminished area and deterioration in productive powers. The incidents common to both were—

- (1) That the raiyat could not be ousted save in execution of a decree for arrears of rent (a period of fifteen days grace was allowed).
- (2) That the holding was divisible amongst heirs, though the rent could not be divided without the landlord's consent (section 27, Act X of 1859.)
- (3) That it was not transferable without the landlord's consent
- (4) That it was relinquishable after service of due notice (section 19, Act X of 1859).
- (5) That it was not annulable by a sale for revenue arrears.
- (6) That the full rent was payable irrespective of calamity of season save in Rahang, Serai, Chowbiskud and Lembai, in which parganas the clause was included in the pattas entitling the raiyat to remission for loss of crop.

The non-occupancy raiyats alone remained as before mere tenants-at-will.

125. These were the alterations introduced by Act X of 1859. But though the occupancy pahi raiyat was legally raised to the level of the thani raiyat, in actual practice the old distinction continued with more or less strength according to the varying character of the relations between landlord and tenant in different estates. Up to the time when the present settlement revision was first undertaken, and the provisions of the Bengal Tenancy Act were extended to Orissa, and the raiyats by contact with revenue officers began to appreciate the strength of their position, zamindars of the oppressive type were in the habit of freely ousting their pahi raiyats without undertaking the trouble of a rent suit. As formerly they adopted this cavalier method, not so much against resident as against non-resident pahi raiyats, for in the course of the settlements by reason of the abandonment of overassessed thani lands and the gradual extension of cultivation, a large body of resident cultivators had grown up who, though possessing no thani lands, had yet been settled for an indefinite period in the village, and possessed homestead lands like the thani raiyats. These new resident cultivators became quite as influential as the old thani raiyats, and were treated by landlords in much the same way as thani raiyats. The incidents attaching by customary usage to the holding of the resident pahi raiyats were much superior to those attaching to the holdings of the non-resident cultivator, and this is my reason for distinguishing between the two classes at the beginning of this note. The resident pahi raiyats share in the communal rights over pasturage, fuel and thatching grass. Their rights to the produce and timber of trees in their holdings are practically the same as those of thani raiyats. Their relations with the landlord are more intimate than is the case with non-resident cultivators. They share in the common feasts of the village, contribute to the common expenses, and like the thani raiyats, in cases where cordial relations subsist between landlord and tenant, they give the landlord the assistance of a day's labour in the year for the cultivation of his private lands.

126. In addition to the superior security of possession which the thani raiyats continue to preserve in spite of the levelling provisions of Act X of 1859, another custom began to differentiate the thani from the pahi raiyat. Neither right has ever been legally recognised to transfer by sale, but the transfer of thani raiyats had become a matter of every day occurrence even before resettlement operations began. Babu Nanda Kishore Das (para. 104 of his report) notes that transfer was particularly common in the khas mahals, probably on account of the proximity of the Government estate of Khurda in which the right of transfer was admitted by Government order No. 2553 of 17th December 1874. Babu Akshoy Kumar Sen, Assistant Settlement Officer, found that it was similarly common in pargana Lembai, which also adjoins Khurda subdivision. In Kotdesh Mr. Nathan found in 1892 that "the sale of thani lands was matter of daily practice, and that as a rule without any reference to mukaddam or zamindars." There was, however, always a tacit admission that the landlords consent was legally necessary to such a transfer, and this was expressed in the shape of a fee usually amounting to Rs. 2 per Rs. 100 of purchase money, paid when the new purchaser applied to have his name entered in the zamindar's rent-roll. This was the custom as regards thani lands. On the other hand, I have never seen or heard it stated that up to a very recent date pahi raiyats ever claimed the right of transfer, or in practice exercised the right with or without the landlord's consent. It was never supposed that the pahi holding had any marketable value. If the pahi raiyat could not pay his rent, or wished to relinquish his land, the landlord took it over and leased it to a new tenant, and that was the end of the matter. Whether the resident pahi raiyat, in respect of the right of transfer, exercised the privileges of thani raiyat, or was treated as a non-resident cultivator, I have not been able to ascertain. From Mr. Nathan's note I should judge that no pahi lands were ever the subject of transfer. But Babu Suderson Das, Assistant Settlement Officer,

who is both an Uriya-born and a zamindar, has informed me that the resident pahi raiyat could transfer his right in the same way as the thani raiyat, the zamindar making no distinction between them.

127. The last stage in the development of raiyati rights has been the the present revision of settlement spreading over a period of eight years and involving the extension to Orissa of many sections of the Bengal Tenancy Act. It is impossible to exaggerate the educational effect that settlement operations had from the first in teaching the pahi raiyats the nature of their previously existing rights, and in granting them security of tenure; but up to September 1891, when the status sections of the Bengal Tenancy Act were extended to Orissa, I do not think that they had much influence on customary usage. The alterations in the law of raiyati holdings that were effected by the extension of the Act were chiefly twofold. Firstly, there was the distinction between section 6, Act X of 1859 and section 20 of the Bengal Tenancy Act. Under the former, a raiyat acquired occupancy rights only in the land which he had held continuously for 12 years; under the latter a raiyat became a settled raiyat in the village if he had any land in the village for twelve years, and he acquired occupancy rights in all land in his possession, or that might subsequently come into his possession, in the village. Also the burden of disproving occupancy was laid upon the landlord. Secondly, there was the distinction between section 21, Act X of 1859, and section 65 of the Bengal Tenancy Act. Under the former an occupancy raiyat was liable to ejectment for arrears of rent; under the latter his holding became liable to sale and the raiyat became entitled to the balance of the proceeds.

128. This second change obviously at once bestowed a marketable value on pahi land if it had already possessed any such. These innovations in the law, combined with the working of settlement revision, had an extraordinary effect on the custom of transfer and the acquisition of occupancy rights. Prior to their enactment occupancy rights, if not in thani, at least in pahi lands were not transferable by custom, and it follows from section 19 of the Bengal Tenancy Act that the purchaser of pahi lands, unless previously a settled raiyat of the village, could not acquire occupancy right in the land purchased. The purchaser of thani lands probably acquired occupancy rights as thani lands had become transferable by custom; but to counteract this distinction sub-section (9) of section 20 came into play. The pahi raiyats actually found in possession, whether as original holders or recent purchasers, were recorded in our records as settled and occupancy raiyats, and mutations were freely granted by Assistant Settlement Officers without reference to the landlord. The burden of disproof being on the landlords, and the landlord not having at any stage interfered to contest the record of the transferee's settled and occupancy rights have been bestowed on a large number of persons who strictly had no claim to them. The transfer of pahi lands, has in the course of the last four or five years become as common as the transfer of thani lands, and zamindars and tenure-holders have tacitly acquiesced in the process and are now content to levy, when they can, registration fees of annas 2 to annas 4 per rupee of the purchase money at the time of recognition in their rent rolls. It is doubtful whether in future purchasers of raiyati lands will continue even to pay this customary fee. Those who have not already paid it and have received copies of the finally published record, will doubtless feel themselves in a strong enough position to defy the landlord if the scheme for maintenance of records be successfully introduced. I doubt whether the landlord's consent can ever be made a practicable condition to mutation of raiyati holdings unless a recognised scale of fees be prescribed by law and the demand be made legally recoverable by Act. In Taluk Kotsahi, a well-managed zamindari of Kotrahang pargana with its sadar cutchery at Pipili, the customary fee, I am told, is annas 2 per rupee of purchase money for the mutation of thani lands and annas 4 per rupee for the mutation of pahi lands. The distinction is a sort of expression of the fact that the transfer of pahi lands is an innovation for the recognition of which a higher fee is demandable.

129. Having traced the history of raiyati raiyats, I am now in a position to define the incidents of the various classes as they now stand—it will be enough to define those of the "settled and occupancy raiyats holding thani lands", and to note in what respects the incidents of the other classes differ.

(1) Settled and occupancy raiyat holding thani lands—

- (a) He has settled occupancy rights in all the lands that he holds, or may, during the continuation of his settled and occupancy right acquired in the village.
- (b) His settled and occupancy right is transmissible in full to heirs and to co-sharers
- (c) His occupancy right is transferable by sale subject to a customary payment to his landlord.
- (d) His settled and occupancy right continues as long as he holds lands in the village and for one year after, and is not interrupted by dispossession which he successfully contests under section 87 of the Bengal Tenancy Act.
- (e) His settled and occupancy rights is divisible amongst his heirs, but rent payable is not divisible without the consent of the landlord (section 27, Act X of 1859).

- (f) He is liable to ejectment if he renders the land of his holding unfit for the purposes of the tenancy.
- (g) He has limited rights determined by custom over the timber and produce of trees standing on his land. (See paras. 103—107).
- (h) His rent is not liable to enhancement during the term of settlement.
- (i) He is entitled to reduction of rent on the grounds specified in section 38, Act VIII of 1885.
- (j) His rent is payable on the dates that may be fixed by Government (section 53 Bengal Tenancy Act, has been extended to Orissa, but it contains the words "subject to agreement or established usage," and I assume that the dates of raiyats' kists in Orissa will be settled by Government simultaneously with the dates of revenue kists).
- (k) His holding is liable to sale for arrears of rent, and he is entitled to the balance of the proceeds after deducting the arrear rent, interests, and cost, if any.
- (l) He is at liberty to relinquish his holding, provided he gives notice of the relinquishment in or before the month of Chaitra of the year preceding that in which the relinquishment is to have effect; otherwise he continues liable for the rent of the following year (section 19, Act X of 1859).
- (m) He is not entitled to remission of rent for loss of crop caused by drought, inundation or other calamity of season. (The clause entitling raiyats to remission has been in the current settlement omitted from the khatians of raiyats in parganas Rahang, Serai, Chowbiskud and Lembai, in whose pattas it was originally inserted. I am not aware whether they have any legal claim founded on custom to a continuance of this incident. In any case it would be for the Court to determine the scale of remissions, as that has never been defined. I have discussed this subject in the report on the khas mahals).

Incidents of settled and occupancy raiyats holding thani and pahi lands.

130. (2) Settled and occupancy raiyat holding thani and pahi lands.

The incidents of his holding are exactly similar to the above except in the case of incident (h).

For this will be substituted—

(h) The thani portion of his rent is not liable to enhancement during the term of settlement. The pahi portion of his rent is liable to enhancement according to the provisions of sections 27 to 37 of the Bengal Tenancy Act, that is, on the grounds of prevailing rate and rise in prices after 15 years, and on the grounds of landlord's improvement or fluvial action at any time.

As a matter of fact the areas and rents recorded as thani-pahi mixed are in almost all cases composed. The landlord will find it difficult to say and the Court difficult to ascertain, what portion of the rent is thani and what portion is pahi. Consequently, it may be taken for granted that the thani-pahi mixed rents are just as effectively fixed for the term of settlement as the pure thani rents. This, I think, is no great matter for regret. There will be a larger margin at next settlement for enhancement by the Revenue Officer and a smaller margin for reduction of landlord's income. The difficulty caused by reduction of income will thus be minimised.

131. (3) Settled and occupancy raiyats holding pahi lands,—

These differ from the two above only in this respect that their rents will be liable to enhancement according to the provisions of sections 27 to 37 of the Bengal Tenancy Act,

- (4) Occupancy raiyats holding thani land.
- (5) Occupancy raiyats holding thani-pahi lands.
- (6) Occupancy raiyats holding pahi lands.

These differ from the three classes described above only in one respect, a technical distinction made by sub-section (3) of section 20 of the Bengal Tenancy Act. Persons who have acquired occupancy rights do not acquire the rights of 'settled raiyats' by their purchase. They do not become settled raiyats till they have held in the village for twelve years. This affects incident (a) above.

By their purchase they acquire occupancy rights only in the lands purchased, and not in other lands which they may hold as non-occupancy raiyats, or may subsequently acquire in the village before the twelve years have passed. As a matter of fact, all holders of occupancy rights have been recorded as "settled and occupancy" according to the provisions of sub-section (7) of the same section. The distinction, therefore, will only apply to outsiders, who, after the final publication of the record, acquire occupancy rights in the village.

CHANDNA RAIYATS.

132. I have mentioned these as being locally distinguished from thani and pahi raiyats. They are the occupants of homestead lands chiefly in the villages that are only village sites ("patuas") and have not cultivated lands attached. Though their holdings are not really

raiya in the sense of being held for the purposes of cultivation (section 5-2) of the Bengal Tenancy Act, the incidents of their holdings, I take it, do not legally differ from those of "settled and occupancy raiyats holding pahi lands" and of occupancy raiyats holding pahi lands. They will be entitled to the addition settled according as they satisfy the provisions of section 20 of the Act. At last settlement cultivated lands in possession of "chandna" raiyats were sometimes distinguished as chandnadar-ku-delu-patta, but this distinction has not been preserved in the present settlement, many lands also which were at last settlement styled chandna are now recorded simply as settled and occupancy. As records rights to trees, &c., determined by customary usage, chandna raiyats have the same rights as a rule that thani raiyats exercise in their minha or rent-free homesteads.

7. NON-OCCUPANCY RAIYATS.

133. This in point of numbers is an insignificant class. The incidents of the holding as laid down in chapter VI of the Bengal Tenancy Act, and as determined by custom, are briefly as follows:—

- (1) The rent as recorded at the present settlement may be enhanced after five years, either by registered agreement or under the provision of section 46 of the Act.
- (2) The raiyat is liable to ejectment by suit (a) for arrears of rent (15 days' grace being allowed); (b) for breach of condition of tenancy or for rendering the land unfit for the purposes of the tenancy; (c) on the expiration of term of registered lease; (d) for refusal to pay enhanced rent on expiration of the term for which enhanced rent is payable.

If it be the case that the effect of settlement of rent in the present revision of settlement is equivalent to the execution of an agreement under section 46, then it follows from sub-section (7) that all recorded non-occupancy raiyats will be liable to ejectment by suit five years from the date of the finally published record unless they have a registered lease, for a longer time.

- (3) The holding is not by custom heritable, transferable or divisible, but if the landlord recognises the heir of a non-occupancy raiyat, he inherits his predecessor's rights under sub-section 20 of the Act.

134. (8) Raiyats holding lands at quit-rent liable to enhancement at sale of estate for arrears of revenue. There are in most estates small areas assigned by zamindars to their servants and relatives either rent-free or at quit-rent.

The area is considerable in certain estates (Killas Amnakud, Bhaura and Baliana in pargana Kotdesh for example) where an arrangement called variously "biraderanchas" and "uttantanki" has been perpetuated from last settlement. By this arrangement the younger brothers and other relatives of the zamindar who succeeded to the estate by inheritance were allowed to hold lands at low rents, the difference between the low assessment and the normal valuation being made up by the zamindar. This arrangement of course was liable to be cancelled in the event of a sale for arrears of revenue. It has been continued in the present settlement. The persons holding these lands have all the privileges and disabilities of settled and occupancy raiyats with the special provision that, if the estate pass by revenue sale out of the hands of the zamindar from whom they derive their claim to low assessment, the holdings will be liable to pay such a fair and equitable rent as may be settled amicably between the holders and the new purchasers, or as may be determined by the revenue court. In fixing the fair and equitable rent, the court, would probably be guided by the valuation for revenue proposal which has been made against the holdings in question.

INCIDENTS OF THE UNDER-RAIYAT INTEREST,

135. This class approaches as nearly as possible to the "tenant-at-will" of last settlement. The only limits to the power of the immediate landlords are—

- (1) That rent is not legally recoverable at rates exceeding the rate of rent of the raiyats by more than 50 per cent. in the case of registered agreement and 25 per cent. in other cases; more however, is lawfully payable; but the rents are usually "half-produce rents," and so this provision does not much affect the case.
- (2) That the raiyat cannot be ejected except on the expiration of lease or at the end of the agricultural year following that in which he receives notice to quit.

An under-raiyat cannot, by the custom of this district, acquire rights of occupancy, nor are his rights in any way transferable, heritable or divisible.

VALUE OF RAIYATI HOLDING

136. Much interesting information about the transfer of raiyati holding can be obtained from the returns prepared in the registration offices of the district. There are two such offices in the Sadar Subdivision—one at Puri, and one at Pipili. Appendix XVII (a) gives some information obtained from the Pipili office, and Appendix XVII (b) some information obtained from the Puri office.

From the former, it appears that in seven years, 1891-92 to 1897-98, there were registered 15,591 transfers and 58,108 bighas (=19,369 acres), bearing a rent of Rs. 31,720, sold for Rs. 7,45,815. This tells us that the average area transferred was 1.24 acres, that the average rate of rent per acre was Rs. 1-10-3, and that the average selling price per acre was Rs. 38.

From the Pipli returns it appears that in nine years there were registered 13,269 transfers, and that by these 33,303 bighas (= 11,163 acres) were sold for Rs. 5,63,318. The average area transferred was .84 acres, and the average selling price per acre was Rs. 50. The price is higher in the northern portion of the district, probably because the lands in the north are less subject to inundation than those in the south.

137. It is interesting to note that the areas transferred are not inconsiderable when compared with the average size of the raiyati holding, No. of transfers of raiyati holdings. 1.24 in the south and .84 in the north, as against an average of 1.63 acres (see para. 136 above).

On the other hand the total area annually transferred is only a small proportion of the total raiyati area of the subdivision. Thus eliminating the Pipli figures for the first two years (1889-90 and 1890-91), we find that the total number of transfers for seven years was 26,049, and the area transferred 28,658 acres. The annual average is 3,835 transfers involving 4,094 acres. But the total number of raiyats' holdings in the subdivision is 140,293, and the total raiyati area 229,650 acres. The annual transfer thus affects only 2.7 per cent. of the total number of raiyati holdings and 1.8 per cent. of the total raiyati area.

From these facts, we gather that the raiyat is slow to part with the security of his fields, and that he does not as a rule part with his entire holding.

138. A still more comforting assurance may be gained from the transfer tables. During the four years 1894-95 to 1897-98, it appears from the Pipli records that the executants of transfers were 78 per cent. raiyats, 9 per cent. landlords, and 13 per cent. "others," while the claimants were 5 per cent. mahajans, 16 per cent. landlords, 39 per cent. raiyats, and 40 per cent. "others." I am informed by the Sub-Registrar of Pipli that the Pipli classes as "others" amongst claimants are mostly shop-keepers, artisans and village servants, whose vocation, though not purely agricultural, is very nearly allied. The people classed as "others" amongst executants are chiefly Bramhans, Karans and Musalmans. If this be the case, then the proportion of land passing into the hands of mahajans and landlords is not really very great. The transfers appear to occur chiefly amongst the agricultural and poorer classes, and are probably in most cases a source of benefit to all concerned, both to transferers and transferees.

The Puri returns for seven years do not show to what class the vendors belong, but as regards vendees they show that 6 per cent. were mahajans, 10 per cent. landlords, 39 per cent. raiyats and 45 per cent. others. These percentages tally more or less completely with the figures of the Pipli office, and show that transfers follow much the same law in all parts of the district.

139. The only other interesting point brought out by the table is that the selling price of raiyati holdings does not appear to have been at all affected by the revision of settlement. The fluctuations are within very small limits. At both centres it will be noticed that the numbers of transfers registered in 1897-98 were unusually larger. This was probably due to the scarcity of the latter half of 1896 and the first half of 1897. The raiyats were able to tide over their temporary difficulties by parting with portions of their holdings to their better-off neighbours.

SERVICE JAGIRS.

140. At last settlement jagirs were granted to the following classes of persons :—

A.—Village officials sub-divided into—

1. Chaukidars.
2. Khandaits.
3. Paiks.
4. Sarbarakars (including Bhoimuls, Dalbeharas, Kot. Karans, Dalkarans, Amins, Dallais and Jankars.)
5. Patwaris.

B.—Village servants—

1. Dhobas or washermen.
2. Bhandaries or barbers.
3. Barahis or carpenters.
4. Kamars or blacksmiths.
5. Jyotis or astrologers.
6. Kumhars or potters.

7. Nauries or ferrymen.

8. Miscellaneous (including Bathis, Barais, labourers whose employments can be requisitioned at need).

Bajadars or drummers.
 Mongaljan or dancing girls.
 Malis or gardeners.
 Mehtars or sweepers.
 Gond or village cowherd.
 Baisnab or mendicant.
 Madhia Brahmans or ceremonial assistant.
 Bhat or heraldic beggars.
 Ratha Bahuk or car puller of Jagannath.
 Sasamul or head bearer of Puri Raja.

The jagirs classed as miscellaneous were few in number and small in extent.

141. The number of jagirs and their extent at last settlement are given in a statement appended to Babu Nanda Kishore's report. An abstract of this gives the following figures :—

Description of Jagir.	Number.	Area.	Average size.	REMARKS.
A.—VILLAGE OFFICIALS.				
1. Chaukidars	1,961	2,792	1'42	
2. Khandaits	133	735	5'52	
3. Paiks	13	53	4'07	
4. Sarbarakars	141	1,174	8'32	
5. Patwaris	26	183	7'04	
B.—VILLAGE SERVANTS.				
1. Washermen	1,004	657	0'65	
2. Barbers	943	644	0'68	
3. Carpenters	597	384	0'64	
4. Blacksmiths	564	356	0'63	
5. Astrologers	365	132	0'36	
6. Potters	26	20	0'77	
7. Ferrymen	47	45	0'95	
8. Miscellaneous	65	47	0'72	
Total	5,885	7,222	1'22	

142. The chaukidars, washermen, barbers, carpenters, blacksmiths, astrologers, potters and ferrymen were distributed, more or less evenly, over the whole district, being the village servants who are most indispensable to the village community. The most important class, the chaukidar, had jagirs averaging nearly $1\frac{1}{2}$ acres in extent. The next most important, the washermen, barbers, carpenters and blacksmiths, were allowed about two-thirds of an acre each.

The khandaits were superior police officers originally established in places where it was difficult to maintain a regular police establishment to control the village watch. Out of the jagirs allowed to them, they had to give lands to the chaukidars or paiks serving under them. The most important khandait jagir in this district was that in Chandpur and adjoining mauzas of pargana Paschimduai, 103'57 acres in extent. In addition to the khandait jagir shown in the statement above, there is an important khandait tanki jagir in mauza Bindha of pargana Chowbiskud, which will be noticed in the section dealing with resumption.

The paik jagirs are chiefly of Killa Baliana, pargana Kotdesh. They were granted for road services. The sarbarakar jagirs, with the exception of 9 acres, occur in parganas Lembai and Serai, and were relics of the Raja of Khurda's collection system preserved by Mr. Wilkinson. The patwari jagirs were confirmed to parganas Paschimduai, Kotdesh, Antrodh, Oldhar and Chowbiskud. In other parganas the zamindars were usually allowed a special deduction from the assets, in return for which they were to provide for the maintenance of patwaris.

143. All the jagirs of the A class and some of the miscellaneous jagirs of the B class have been at the present settlement resumed with the consent of parties and settled with them. Resumption of jagirs at the present settlement. Consent was given in most cases freely; as the assessment was made at lower than normal rates and the parties were released from the obligation to render service.

The assessed rents will, however be discussed more fully in a subsequent paragraph. I merely note the amount of resumed area in order to contrast the jagir area found in existence at the present settlement with that mentioned in the report of 1875 as existing at last settlement.

The resumed area is as follows:—

(See Appendix XXIV).

Serial No.	Description.	No.	Area.	Average size.	REMARKS.
1	Chaukidars ...	2,262	2,765	1·2	
2	Khandaits ...	91	213	2·3	
3	Paiks ...	30	100	3·3	
4	Sarbarakars ...	162	494	3·0	
5	Patwaris ...	89	448	5·0	
6	Miscellaneous ...	174	536	3·1	
	Total ...	2,808	4,556	1·6	

The jagirs of the village servants, which have been allowed to continue at the present settlement are in number and area as follows:—

Serial No.	Description.	Number	Area.	Average size.	REMARKS.
1	Washermen ...	1,055	519	·48	
2	Barbers ...	979	497	·50	
3	Carpenter ...	580	292	·50	
4	Blacksmiths ...	436	235	·54	
5	Astrologers ...	457	118	·25	
6	Potters ...	67	18	·26	
7	Ferryman ...	35	24	·68	
8	Miscellaneous ...	83	40	·48	
	Total ...	3,692	1,743	·47	

The total of resumed and confirmed jagirs is thus 6,299 acres. At last settlement the area according to the completion register was 7,155 acres, according to babu Nanda Kishor Das's report 7,222 acres. There has apparently been a lapse of nearly 11 per cent. in the total. Jagirs have probably lapsed to the zamindar when the jagirdar family became extinct.

KHANDAITS SARDAR PAIK. PAIKS AND CHAUKIDARS.

144. Since the preceding section of the report was written in June 1898, I have received a Copy of the correspondence that has passed regarding the assessment of the jagirs of khandaits and paiks (Settlement Officer's No. 1288, dated the 12th June 1897, to the Commissioner and Commissioner's No. 242J., dated 5th April 1898). A study of the report on "Puri tenures" and of the facts in evidence in this district has led me to conclusions which may throw a little light on the discussion. In Hindu times Orissa was divided into two portions—(1) the hill country on the west, and the marshes on the east, held by military chiefs called "bhuyans or khandaits," who supported a local militia called paiks; (2) the cultivated plains of the central area ruled by officials called "khandpatis." On the magisterial side, the khandapatis were assisted by "khandaits." These khandaits were quite distinct from the bhuyan khandaits of the military fiefs. They were subordinate to the khandpatis, and merely controlled the village watchmen who were called variously "paiks" and "chaukidars." Sometimes the khandaits were called "sardar paiks" from their position as heads of village watch. Under the Mogals, the bhuyan khandaits of the military fiefs became zamindars, and their estates were called "killas." Under the Mahrattas they became "rajas," paying tribute for their killas, but some of the old killas were resumed and converted into regular zamindaris. Killa Golera in Athaisi is a case in point. Under the British regime the killas of the western frontier became the Garjats paying fixed tribute, and the marshes of the eastern frontier became permanently settled estates with fixed jamas (sections 33, 34, 35, and 36, Regulation XII of 1805). The "paiks" or local militia under the control of these original bhuyan khandaits probably became for the most part ordinary cultivators, and the name "paik" was retained by those only who continued to act as body servants, police officers and village watchmen.

In Cuttack it would appear that these paiks formed themselves into a separate caste called "khandaits". This explains the extraordinary preponderance of the khandait caste in Aul, Kujang and Kanika. In Puri the members of the khandait caste are few.

We have next to consider what happened in the cultivated tract which was under direct management of the Hindu Rajas as their crown lands. Under the Mogals this became the Mogalbandi. The "khandpatis" became "talukdars" and gradually acquired semi-zamindari rights. But they still retained control of the local police, that is of the khandaits or sardar paiks and of the village watchmen called paiks or chaukidars. Under the Marhattas the talukdars continued to pay the land revenue which they collected from the village headmen

the "mokaddams" of the Mogals and the old "pradhans" of Hindu times. But it has been already described how Marhatta ideas of Government favoured the aggrandisement of the village headmen at the expense of the talukdars, who in many cases disappeared, and in almost all cases lost much of their power. It is probable also that during this period, which was one of much anarchy and confusion, a large number of the khandaits who had formerly been subordinates of the talukdars disappeared, and all that was left of the police administration of the Hindus and Mogals was the village paik or chaukidar, working probably under the control of the village headmen.

145. At the conquest, then, we found responsible for the revenue a mixed body of zamindars, talukdars, and mokaddams, while the police was represented by a few khandaits still working under the control of the revenue zamindars and talukdars, and a large body of "paiks," some working under the control of the khandaits, but most devoid of all superintendence except that of the village headmen. We also found a class of "dosadhs" or private watchmen, who were the personal servants of the zamindars and talukdars. This latter class held jagirs assigned to them by their employers out of their private lands, and were quite distinct from the village paiks who held jagirs continuing perhaps from Hindu times, but at any rate confirmed to them by the Mahratta Government.

146. Regulation XIII of 1805 sought to introduce order into the prevailing chaos. Law abiding zamindars were constituted darogas and vested with control of the khandaits or sardar paiks and of the paiks in their estates. But as the khandaits had mostly disappeared from the scene, the zamindars found only paiks to control. In the case of zamindars who had been divested of police duties, salaried darogas were appointed, and it was arranged that under their charge khandaits or sardar paiks should be nominated to superintend the work of the paiks.

The chaukidars of the present day are the paiks of Regulation XIII. The name "paik" has been retained only in the case of certain special watchmen who had road duties to perform as in Killa Baliana, and in the case of areas where khandaits or "sardar paiks" were nominated to assist the salaried darogas.

The jagirs of the paiks and of the khandaits were continued to them by section 5 of the Regulation and it was expressly laid down in section 11 that the provisions of the Act should not apply to the jagirs of the "dosadhs" or private watchmen of the zamindars. Even to the present day we find "zamindar diy chatia," which would seem to correspond to the "dosadh" jagirs of the Regulation, and which has been assessed to revenue like all other "zamindar diya" jagir and "niskar" lands.

147. We have in the present settlement resumed and assessed with consent all the chaukidar, khandait and paik jagir lands and the question is what should be done with the proceeds? If the account I have given above be an accurate description of the facts, it seems to be clear that the khandaits and paiks who only differ from the chaukidars in that they were employed on special duty or worked under the direction of the khandaits were part and parcel of the village police. Their jagirs and the proceeds of resumption should be applied in one and the same way, that it should be appropriated to the Chaukidari Fund as recommended in the alternative scheme (B), proposed by the Settlement Officer in paragraph 5 of his No. 1288, dated the 12th June 1897.

In the same paragraph the Settlement Officer suggested that certain large jagirs should be settled as estates with the sardar paiks or khandaits. To their number I have proposed to add the resumed khandait jagir of mauza Chandpur in pargana Paschimduai, on which a special report has already been submitted by Babu Akshoy Kumar Sen along with the general report of that pargana. The area is 103.57 acres, the assessed valuation Rs. 250, and the proposed revenue Rs. 125. The khandait formerly did some service at Pipli Thanas and the paiks who served under him held a portion of the Jagir lands. Their services are not specially required now, as the Chaukidari Act can be applied without difficulty to the villages concerned.

One other case calls for special mention, viz., that of the resumed khandait tanki jagir mauza Rendha in pargana Chowbiskud. The area is 336.62 acres, the quit-rent Rs. 127-3-2 and the resumed rent Rs. 240. The khandait and his paiks patrol the sand area to the south of Puri town along which lay the old road from Ganjam. This is one of the cases in which, as suggested by the Commissioner in paragraph 6 of his No. 242J. of 15th April 1898, the Magistrate has replied that it is not necessary to retain the services of the jagirdars, as the old road has lost its importance since the opening of the East Coast Railway. It has been proposed to treat the present jagirdar, who was appointed khandait about 6 years ago, as a mustajir of the estate Taluk Krishnachandra, in which the jagir is situated, and through which the old quit-rent was formerly payable.

REVENUE-FREE LANDS

148. The revenue-free holdings which were exempted from resumption at the conquest (see paras. 133-138) are detailed in Regulation XII of 1805. In the Puri district the confirmed grants were of the following denominations:—

- 1st—Debottar—Grants for the support of Hindu idols.
- 2nd—Brahmottar—Grants for the support of Brahmans.