

TB in Tribal Community in Uttar Dinajpur (West Bengal) in 2011

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Dear Editor,

We write to report findings from the TB data in the fourth quarter of 2011 in West Bengal. When doing an analysis by community, the TB Officer found that a very large percentage of TB patients in our district were from tribal communities.

There are 9 development blocks in Uttar Dinajpur. There are 6 TU. Cases of TB were highest in Raiganj and Kaliaganj Tuberculosis Units. Karandighi and Dalua blocks.

Cases

There were 308 new smear positive patients detected in the fourth quarter of 2011. 70 patients were from tribal communities. Tribal patients were 3 of 34 TB in Karandighi and 9 of 36 in Itahar, 11 of 68 in Kaliaganj and 31 of 71 in Raiganj. 11 of 62 patients in Islampur were tribal. In Lodhan 5 patients were tribal out of 37.

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ST Patients out of Total New Smear Positive under RNTCP, Uttar Dinajpur 4th Quarter 2011

Name of TU	BPHC	Town	Total New Sputum Positive Patients	ST Patients out of Total NSP	Percentage
Raiganj DTC TU	Raiganj	Raiganj	71	31	43.66
Islampur TU	Ramganj, Dalua	Islampur	62	11	17.74
Kaliyaganj TU	Kaliyaganj, Hemtabad	Kaliyaganj	68	11	16.18
Itahar TU	Itahar		36	9	25.00
Karandighi TU	Karandighi	Dalkhola	34	3	8.82
Lodhan TU	Lodhan, Chakulia		37	5	13.51
Total Uttar Dinajpur			308	70	22.73

Tribals consist of only 7% of the population of Dalua / Chopra, 7 % in Karandighi, 7.9% in Itahar, 5.8% of Raiganj, 4.6% of Kaliaganj, 6.2 % of Chakulia and 5.4 % of the district.

ST and SC as percentage of 2001 Census Population

Name of the Block/ Municipality	Name of Institution	2001 Population	SC %	ST %
Itahar	Itahar BPHC	284256	26.7	7.9

Kaliyaganj	Kaliyaganj BPHC	188540	60.5	4.6
Hemtabad	Hemtabad BPHC	129660	34.6	3.8
Raiganj	Raiganj BPHC	394674	38.4	5.8
Karandighi	Karandighi RH	363668	30.7	7.3
Goalpokher - I	Lodhan BPHC	272273	14.3	3.8
Goalpokher - II	Chakulia BPHC	250422	23.2	6.2
Islampur	Ramganj BPHC	265799	17.4	2.4
Chopra	Dalua BPHC	245670	18.5	7.1
Kaliyaganj (M)		57347		0.85
Raiganj (M)		182683		0.96
Dalkhola (M)	(included in Karandighi)			0.45
Islampur (M)		59280		1.16
Total	U Dinajpur	2694272	29.37	5.43

Mirwal TB Hospital run by Missionaries of Charity (in Raiganj Block) has tribal patients from outside which may explain why the number of tribals here are three times those in neighbouring TB Units.

Area

The District of Uttar Dinajpur came into existence on April 1, 1992 after the bifurcation of the erstwhile West Dinajpur district. Uttar Dinajpur, due to its shape and length, has many special features different from other districts. While it has 227 Km long international border with Bangladesh, there is approximately 206 Km long state boundary with Bihar. This district is one of the most backward

districts of the state of West Bengal. NH-34 and NH-31 are connecting this district with other parts of the State and country. Some part of Bihar particularly Kishanganj is almost encircled by two blocks of U Dinajpur (Goalpokhar-I & Goalpokhar-II). In the northern part of the district there are almost 150 tea gardens. The birth rate of 5 blocks of Islampur subdivision is among the highest in the State (36/1000 in 2001). Infant mortality was nearly 66 compared to 48 in State (NFHS-3) and MMR of 350 compared to 194 in State (SRS 2004). Home delivery percentage is also very high (79%). Female literacy was only 36.4% (2001 Census). Malnutrition rate is as high as 70% compared to state 44% (NFHS-3). Most of the people are dependent on agriculture. Mainly four rivers, Mahananda, Dock, Nagar and Kulick, are flowing through the district. They cause floods in most of the blocks. Migration is a major concern in this district. People go outside to hunt of seasonal jobs. Population is around 3 million according to the 2011 census. About 27.7% of the population is SC and 5.1% ST.

Previous Studies

There have been some earlier studies analysing the community of TB patients. They were based on NFHS data.

One such study was “A study of gender differentials in the prevalence of tuberculosis based on NFHS-2 and NFHS-3 data“ (ICJM) by PP Sharma et al. This study showed that Scheduled Tribe male rates of TB were around 800/ 100,000 population which is about four times the female rate of TB among urban (others). In the latter group (female urban others) the TB rate was around 200. Female rate of TB among tribals was around 350 and male rate of TB among others was around 400.

(<http://www.ijcm.org.in/article.asp?issn=0970->

[0218;year=2010;volume=35;issue=2;spage=230;epage=237;aulast=Sharma](http://www.ijcm.org.in/article.asp?issn=0970-0218;year=2010;volume=35;issue=2;spage=230;epage=237;aulast=Sharma) and

<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2940177/table/T0005/>)

The authors divided the population into 3 SLI (standard of living index) categories. The prevalence was close to 800 in the low standard of living (SLI) category and only 145 to 160 in the high standard of

living (SLI) category in urban areas

http://www.ijcm.org.in/viewimage.asp?img=IndianJCommunityMed_2010_35_2_230_66869_t5.jpg

(Accessed on 11th October 2013)

The other study based on NFHS I was “Biomass Cooking Fuels and Prevalence of Tuberculosis in India” (Int J Infect Dis 1999; 3:119-129.) Vinod K. Mishra, et al.

The authors say, “The adjusted tuberculosis prevalence rate is 969 (per 100,000) among those living in households using biomass fuels and 378 among those living in households using cleaner fuels.”

“Persons who belong to scheduled castes or scheduled tribes (groups that are officially recognized as under privileged) have a somewhat higher prevalence of tuberculosis than persons who belong to other castes, this again may be attributable to poorer access to medical care. The difference is not statistically significant, however.” (*Note: After adjusting for other factors*)

The NFHS III study divides the community into 5 socio-economic categories. It shows that 57% of tribes in West Bengal are in the lowest socio economic category (poorest) and only 16.5% are in third or higher category (middle category upwards). On the other hand third or higher category is 50% of the total population and 39.5% of SC are in the third or higher category. 5th category is 25% of the total population and 30% of SC are in the poorest category.

So the increased prevalence in Uttar Dinajpur tribal community could be

- 1) a result of them being poorer or
- 2) it could be related to the tribal use of biomass fuels. The high rate of male TB in the NFHS studies is a pointer against biomass fuel- but this impression needs to be confirmed by clinical

data and surveys (in case women are reporting TB less)

District-wise Performance of RNTCP (Contd...)

State	District	No (%) of pediatric cases out of all New cases	3 month conversion rate of new smear positive patients ³	3 month conversion rate of retreatment patients ⁴	Treatment Success rate of new smear positive patients ⁵	Treatment success rate among smear positive previously treated cases ⁵	No (%) of all Smear Positive cases started RNTCP DOTS within 7 days of diagnosis	No (%) of all Smear Positive cases registered within one month of starting RNTCP DOTS treatment	No (%) of all cured Smear Positive cases having end of treatment follow-up sputum done within 7 days of last dose	No (%) of cases (all forms of TB) registered receiving DOT through a community volunteer	Proportion of all registered TB cases with known HIV status	Proportion of TB patients known to be HIV infected among tested	Proportion of TB patients known to be HIV infected among registered	Proportion of HIV infected TB patients receiving CPT during TB treatment	Proportion of HIV infected TB patients receiving ART during TB treatment
West Bengal	Jalpaiguri**	339 6%	90%	67%	87%	70%	3903 92%	4175 98%	3459 94%	645 9%	53%	1%	1%	100%	100%
West Bengal	Koch Bihar**	76 3%	89%	67%	86%	61%	1189 68%	1612 93%	1132 77%	722 24%	9%	3%	0%	0%	0%
West Bengal	Kolkata	486 9%	81%	58%	79%	57%	3080 85%	3615 100%	2693 98%	2009 29%	32%	8%	3%	0%	0%
West Bengal	Maldah**	257 6%	87%	68%	84%	66%	2342 70%	2784 83%	1789 68%	489 10%	15%	2%	0%	0%	0%
West Bengal	Medinipur East	64 3%	86%	56%	83%	67%	1250 75%	1534 93%	1062 71%	313 12%	17%	4%	1%	33%	33%
West Bengal	Medinipur West	139 3%	91%	78%	89%	72%	2610 74%	2652 75%	2130 72%	1005 16%	4%	4%	0%	0%	0%
West Bengal	Murshidabad	372 5%	92%	73%	89%	72%	3909 81%	4523 94%	3342 82%	1570 20%	27%	1%	0%	0%	0%
West Bengal	Nadia	137 3%	89%	66%	87%	66%	2376 82%	2858 99%	2019 84%	1030 20%	39%	2%	1%	0%	60%
West Bengal	North 24 Parganas	349 5%	87%	61%	85%	64%	5650 95%	5956 100%	4636 95%	5654 58%	43%	2%	1%	49%	47%
West Bengal	Puruliya	126 4%	90%	73%	87%	68%	1218 65%	1719 92%	1324 81%	470 12%	16%	0%	0%	0%	0%
West Bengal	South 24 Parganas	267 5%	88%	64%	87%	65%	3115 75%	4076 98%	2828 83%	1861 28%	20%	3%	1%	0%	0%
West Bengal	Uttar Dinajpur	136 6%	88%	68%	85%	67%	1591 87%	1772 97%	1148 83%	429 15%	15%	5%	1%	0%	0%
Grand Total		85756 7%	90%	72%	87%	71%	721609 87%	800397 96%	543414 82%	662074 43%	34%	8%	3%	86%	49%
Summary of performance of Tribal Districts		4383 7%	90%	73%	88%	73%	36011 84%	40726 95%	25522 77%	39170 49%	18%	6%	1%	77%	50%
Summary of performance of Poor and Backward Districts		15251 6%	90%	73%	88%	75%	146682 86%	163530 96%	106653 79%	154325 51%	13%	7%	1%	85%	42%

* Tribal Districts (more than 50% tribal population) ** Poor/Backward District † Tribal & Poor/Backward Districts

Estimated New Smear Positive cases / lakh population based on ARTI data for North Zone (Chandigarh, Delhi, Haryana, Himachal Pradesh, Jammu & Kashmir, Punjab, Uttar Pradesh, Uttaranchal) is 95; East Zone (Andaman & Nicobar, Arunachal Pradesh, Assam, Bihar, Jharkhand, Manipur, Meghalaya, Mizoram, Nagaland, Sikkim, Tripura, West Bengal) is 75; South Zone (Andhra Pradesh, Karnataka, Lakshdweep, Puducherry, Tamil Nadu) is 75 and West Zone (Chhattisgarh, Dadra & Nagar Haveli, Daman & Diu, Goa, Gujarat, Madhya Pradesh, Maharashtra, Rajasthan) is 80; Orissa is 85, Kerala is 50

1 Projected population based on census population of 2001 is used for calculation of case-detection rate. 1 lakh = 100,000 population

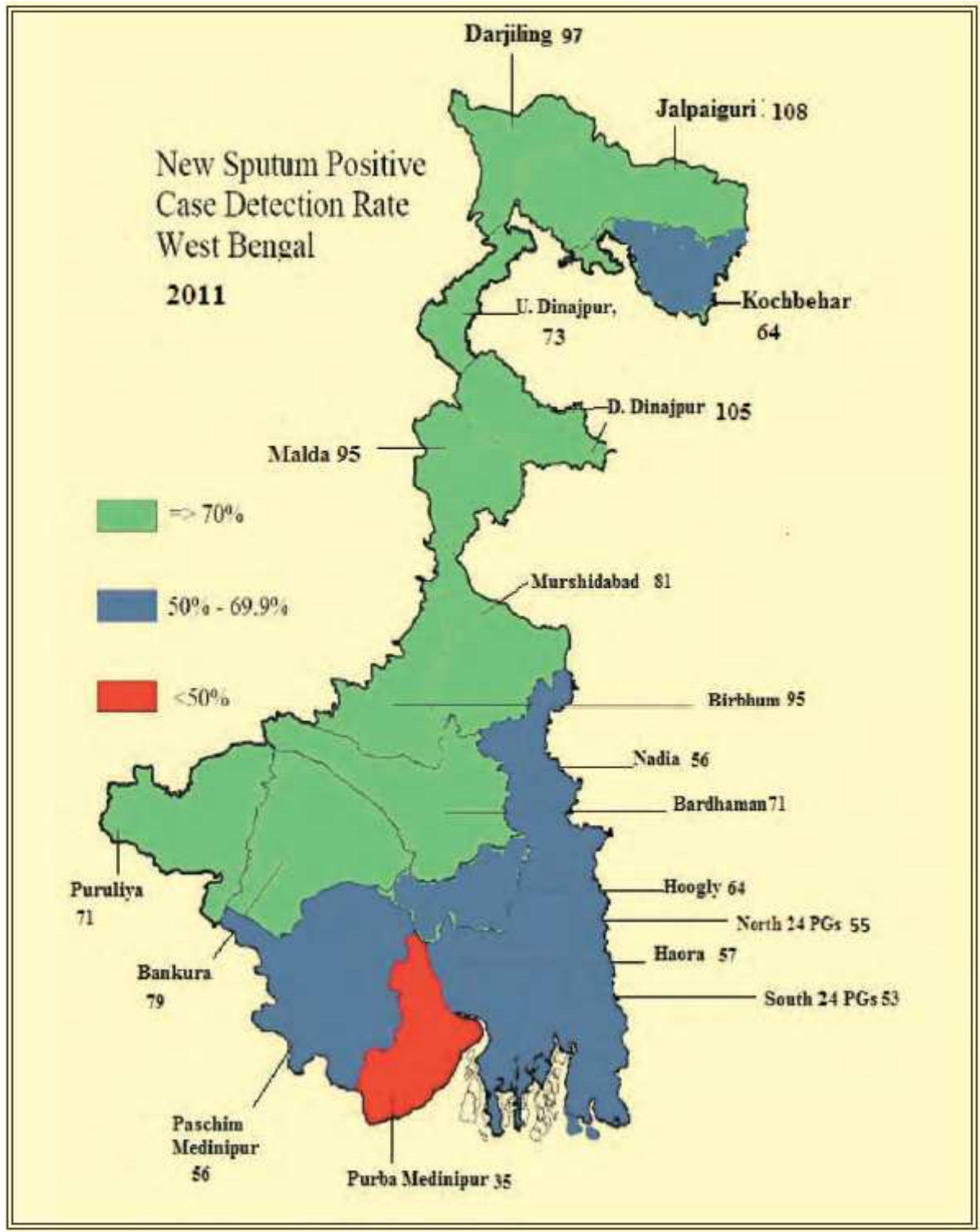
2 Smear positive patients diagnosed include new smear positive cases and smear positive retreatment cases.

3 Total patients registered for treatment includes new sputum smear positive cases, new smear negative cases, new extra-pulmonary cases, new others,relapse,failure,TAD and retreatment others

4 Sputum Conversion rate is not expected for new districts that began implementing RNTCP in 4th quarter 2010.

5 Cure rate and Success rate are not expected for new districts that began implementing RNTCP after 4th quarter 2009.

Values for grey areas are not expected



Trends in Case Detection under RNTCP in West Bengal (2004-2011)



Table VIII.2.6 : RNTCP Performance in West Bengal

Suspect Examined/Lakh Population/Quarter

Year	Rate
2006	163
2007	154
2008	154
2009	160
2010	160
2011	164

Number of New Smear Positive Patients Registered for Treatment

Year	Rate
2006	50436
2007	50133
2008	50006
2009	49102
2010	47556
2011	46207

Total Patients Registered for Treatment

Year	No
2006	109320
2007	107236
2008	107225
2009	105816
2010	102397
2011	99826

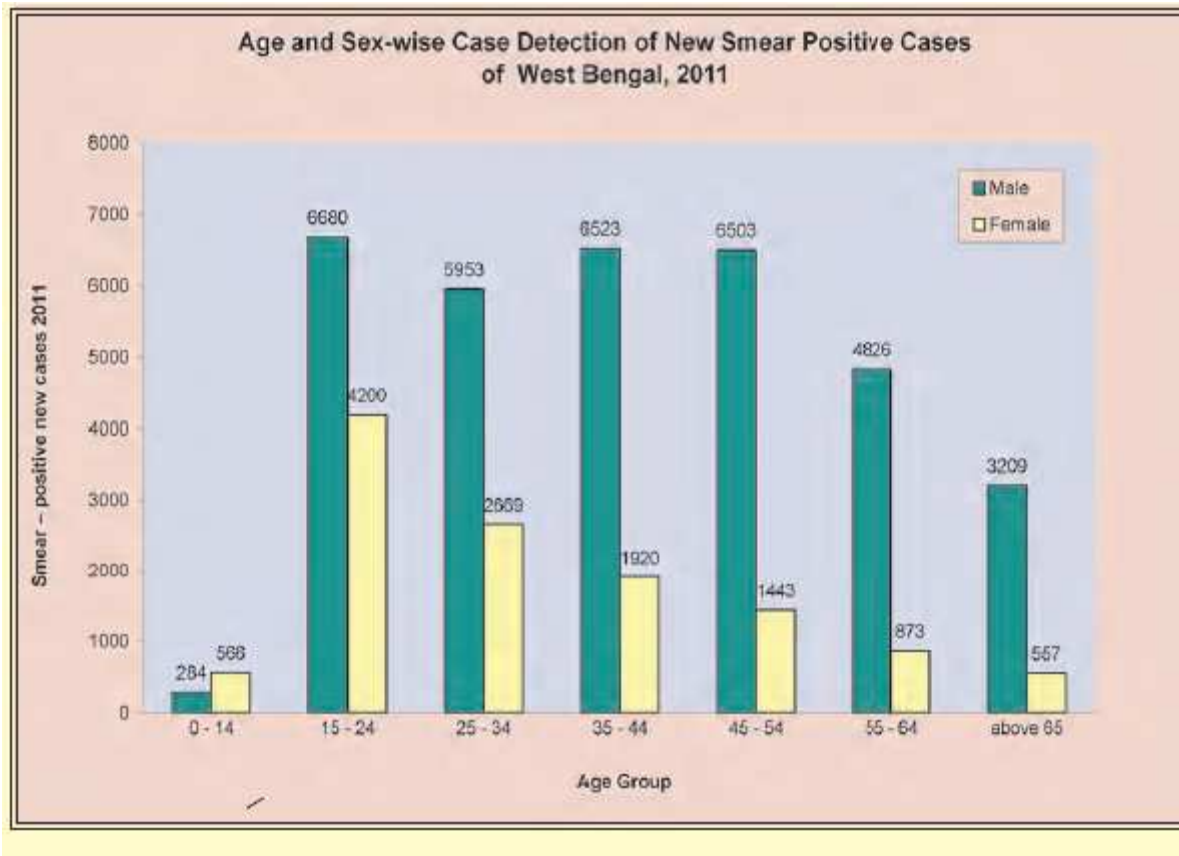
Cure Rate of New Sputum Patients Registered

Year	Rate (in %)
2005	86
2006	86
2007	84
2008	84
2009	84
2010	84

Table VIII.2.7 : Annual RNTCP Performance, West Bengal-Case Finding (2011), Sputum Conversion (4th Qtr 2010 to 3rd Qtr 2011), Results of Treatment (2010)

District	Total patients registered for treatment	Annual total case notification rate	New smear positive patients initiated on treatment	Annual new smear positive case notification rate/Lakh population/Year	New smear positive case detection rate as % of expected level	% of sputum positive out of total new pulmonary patients	3 month conversion rate of new smear positive patients (in %)	Success rate of new smear positive patients (in %)
Estimated level / range				75 per Lakh/Y	70	45-71	90	85
Bankura	4154	112	2105	59	79	71	93	91
Bardhaman	9355	121	4101	53	71	66	90	86
Birbhum	4364	130	2390	71	95	72	87	82
Dakshin Dinajpur	2400	143	1320	79	105	76	86	82
Darjiling	3641	203	1302	73	97	70	92	84
Haora	5187	109	2049	43	57	72	88	82
Hugli	5892	105	2702	48	64	72	90	86
Jalpaiguri	6828	180	3059	81	108	72	91	86
Koch Bihar	2880	104	1319	48	64	73	89	85
Kolkata	6238	139	2155	48	64	74	83	79
Malda	4846	132	2623	71	95	77	90	83
Purba Medinipur	2436	50	1287	26	35	81	88	82
Paschim Medinipur	6663	91	3071	42	56	68	91	88
Murshidabad	7753	119	3991	61	81	75	93	89
Nadia	4823	94	2175	42	56	71	89	87
North 24-Parganas	9272	93	4398	41	55	80	88	84
Puruliya	3764	133	1501	53	71	54	91	89
South 24-Parganas	6691	86	3164	40	53	75	88	85
Uttar Dinajpur	2639	97	1495	55	73	78	91	85
West Bengal	99826	112	46207	52	69	72	88	85
India	1515872	125		53	71		90	88

Shadow cell has no national data as the indicator has recently been changed



Health on the March 2011-12

Table VIII.2.8 : Annual Report on New and Retreatment Cases of Tuberculosis, 2011

A : All New and Relapse Patients Registered in 2011

Age group	New Cases				Retreatment Cases				Total
	New Smear Positive Pulmonary TB	New Smear Negative Pulmonary TB	New Extra Pulmonary TB	Others	Relapses	Failures	Treatment After Default	Others	
0 -14 yrs	850	1256	1861	5	74	45	36	243	4370
≥ 15 yrs	45356	16573	14716	22	6933	1983	3470	6403	95456
Total	46206	17829	16577	27	7007	2028	3506	6646	99826
Sex									
Male	33978	12198	9161	16	5429				
Female	12228	5631	7416	11	1578				
Total	46206	17829	16577	27	7007				

B : Age Group and Sex-wise Distribution of New Smear Positive Pulmonary Cases

Sex	Age Group							Total
	0 - 14	15 - 24	25 - 34	35 - 44	45 - 54	55 - 64	> 65	
Male	284	6680	5953	6523	6503	4826	3209	33978
Female	566	4200	2669	1920	1443	873	557	12228
Total	850	10880	8622	8443	7946	5699	3766	46206

C: TB/HIV Collaboration.

Of all Registered TB Cases no. known to be tested for HIV before or during the TB Treatment (a)	Of (a) No. known to be HIV infected (b)
46346	994

State Bureau of Health Intelligence
 Directorate of Health Services
 Government of West Bengal
 Swasthya Bhawan, GN-29, Sector-V
 Salt Lake, Kolkata - 700 091
 Website : www.wbhealth.gov.in

Table 5 Religion and caste/tribe by wealth index

Percent distribution of the de jure population by wealth index, according to religion and caste/tribe, West Bengal, 2005-06

Religion/caste/tribe	Wealth index					Total	De jure population
	Lowest	Second	Middle	Fourth	Highest		
Religion of household head							
Hindu	20.9	22.6	19.3	19.7	17.6	100.0	18,922
Muslim	36.2	29.3	17.3	13.2	4.0	100.0	7,701
Christian	19.2	20.2	38.5	13.6	8.5	100.0	160
Other	6.1	6.1	3.6	16.8	67.4	100.0	127
Caste/tribe of household head							
Scheduled caste	30.5	30.1	20.0	14.5	5.0	100.0	6,748
Scheduled tribe	57.7	25.9	11.9	3.0	1.6	100.0	1,441
Other backward class	13.9	23.3	23.7	30.9	8.2	100.0	1,152
Other	21.4	22.1	18.3	19.3	19.0	100.0	17,243
Total	25.2	24.4	18.7	17.8	13.9	100.0	26,910

Note: Total includes de jure population for whom caste/tribe of household head is not known or is missing, which is not shown separately.

Yours sincerely,

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