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# Outbreak of Corona Virus (SARS-CoV-2) COVID-19: An Overview on Health System in West Bengal till 30<sup>th</sup> June, 2020

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Abstract: The corona virus or COVID-19 threats our human civilization. There are two way threats, one health and another economy. India is a developing country. So, health system is not up to snuff. West Bengal is the part of the country and that is why West Bengal is facing so many problems. This disease is highly contagious and the health system of West Bengal is not competent to fight against the unprecedented situation. In the beginning Beleghata ID hospital is the only hospital that started working in West Bengal. The West Bengal Govt. take positive initiative guided by ICMR to combat this transmissible disease. In this article, I try to review every nook and corners to draw the clear picture of the health system till 31st May.

Keywords: COVID-19, Contagious, Health crisis

#### 1. Introduction

11th March, 2020, Dr. Tedros Adhanom Ghebreyesus, Director General, World Health Organization declared at the media briefing COVID-19 a Pandemic, pointing to the over 118, 000 cases of the corona virus illness in over 110 countries and territories around the World and the sustained risk of further global spread. He also further remarks that "This is not just a public health crisis, it is a crisis that will touch every sector and every individual must be involved in the fight." [1] There is no doubt the Global Pandemic that is affecting humans' health and economy across the World. If we looked back in history of recent years, it is zoonotic disease; the first human corona virus outbreak was recorded in 1965-HCoV-229E. After that the similar type of disease outbreaks of similar type of disease outbreaks of similar capacity-SARS-CoV and MERS-CoV in 2003 2012respectively. [2] The past three decades have been emergence of almost 40 pathogens, most of which are virus including HIV, hepatitis C virus, Nipah virus and corona virus that have caused pandemics, novel-influenza viruses, etc. [3] First statement of Novel corona virus given by the WHO, Director General was published on 13<sup>th</sup> January after the report of confirmation of the Novel corona virus in a person in Thailand by the Thai officials on 8<sup>th</sup> January, 2020. [4] Before 11th March, the outbreak was considered as an epidemic. [5] On 30<sup>th</sup> January first confirmed case of corona virus in India was reported in Thrissur, Kerala. The patient, female student at Wuhan University in China, tested positive after returning to Kerala. [6] On 1st February ICMR declared the infrastructure situation to combat epidemic.

Dr R RGangakhedkar (Director, ICMR) said "Our preparedness levels are high, nationally. At NIV (National Institute of Virology), Pune, about 750 samples can be tested

every day. Each test takes about four hours. As of today, we have reagents (chemicals needed for tests) to carry out at least 10, 000 diagnostic tests" [7] He also said everyone who had travelled from Wuhan and was showing symptoms of infection would be screened and tested. "Early diagnosis is crucial. The longer it takes to diagnose or trace the contacts (of an infected person), the greater is the chance that the disease can spread to more people. Hence, all symptomatic (people with symptoms) who travelled to Wuhan and returned will be screened and tested. Those who come from Wuhan will be kept under observation. Those who are asymptomatic (not showing symptoms) and are coming from other parts of China and certain ports will be asked to stay within their homes for at least 14 days." [8] West Bengal government followed the guidelines of ICMR and started screening at Kolkata and Bagdogra airport as stated in the Bulletin published on 4<sup>th</sup> February, 2020. [9]

A 24x7 control room has been set up in the State Head Ouarter (Kolkata). Two hospitals with isolation facilities have been set up in the State at ID Hospital, Kolkata and North Bengal MCH, Siliguri [110] for COVID-19 and Govt. also published guidelines for people for consciousness about the corona virus on 4th February, 2020. The isolation facility extended with total 92 beds at the end of February, 2020. The hospitals taken for the isolation across the state are ID and BG hospital, Kolkata, North Bengal MCH, RG Kar MCH, NRS MCH, IPGMER, Kolkata, Calcutta medical college, Calcutta National medical college, COM &Sagar Dutta hospital, Imambara DH & Arambag SDH Hooghly, Howrah DH &Satyabala ID hospital, Howrah, Basirhat DH, Diamond Harbour GMCH, Kakdwip SDC, Rampurhat GMCH and Alipurduar DH. [11] The date wise information regarding the spread of COVID-19 in West Bengal for the month of February is recorded in the following table.

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**Table 1:** Date wise information regarding COVID-19 in West Bengal (04.02.2020 to 29.02.2020)

	Table 1. Date w				Bengal (04.02.2020			
Date	No. persons under home quarantine	No. persons under hospital quarantine	No. of sample tested	No. of negative cases	No. of positive cases	No. of persons deceased	No. of persons cured	No. of active cases
04.02.2020	26	2	8	6	0	0	0	0
05.02.2020	12	1	1	2	0	0	0	0
06.02.2020	7	0	0	1	0	0	0	0
07.02.2020	9	1	1	0	0	0	0	0
08.02.2020	3	0	1	1	0	0	0	0
09.02.2020								
10.02.2020	8	3	1	0	0	0	0	0
11.02.2020	6	1	2	1	0	0	0	0
12.02.2020	2	1	1	2	0	0	0	0
13.02.2020	4	3	1	1	0	0	0	0
14.02.2020	9	2	2	1	0	0	0	0
15.02.2020	29	2	0	2	0	0	0	0
16.02.2020	22	0	1	0	0	0	0	0
17.02.2020	4	1	1	2	0	0	0	0
18.02.2020	27	0	0	0	0	0	0	0
19.02.2020	10	0	0	0	0	0	0	0
20.02.2020	5	1	2	1	0	0	0	0
21.02.2020	28	0	0	1	0	0	0	0
22.02.2020	28	4	0	0	0	0	0	0
23.02.2020	16	0	0	0	0	0	0	0
24.02.2020	5	1	1	1	0	0	0	0
25.02.2020	4	0	0	0	0	0	0	0
26.02.2020	49	0	0	0	0	0	0	0
27.02.2020	3	1	1	0	0	0	0	0
28.02.2020	157	1	1	1	0	0	0	0
29.02.2020	29	0	0	1	0	0	0	0
Total	502*	25*	25	24	0	0	0	0

Source: www. Wbhealth.gov.in Bulletin Date: 04.02.2020 to 29.02.2020

The table-1 shows the date wise number of persons taken under home quarantine, hospital isolation, and test conducted and the test report received. According to the data sheet there is no positive case of corona virus till 29<sup>th</sup> February, 2020. The cumulative number of persons kept under home quarantine 502. The cumulative number of persons kept under hospital quarantine 25. The total number of test conducted was 25. \*The cumulative number of persons kept under home quarantine is 525 and the cumulative number of persons kept under hospital quarantine27 according to the Bulletin published by the Director of Health services, Govt. of West Bengal, on 29.02.2020 which is contradiction with the date wise data given by the same.

On  $7^{th}$  March the number of beds increased to 163 and the facilities had been arranged in the hospitals are Dr. BC Roy PGIPS, COM & JNM Hospital, Medinipur MCH, Bankura

Sammilani MCH. Purulia GMCH. Malda MCH. Murshidabad MCH, Raiganj GMCH, Coochbehar GMCH in addition with the previous list of hospitals. On 18th March the number of beds increased to 181 and the facilities had been arranged in the hospitals are Uluberia SDH in addition with the previous list of hospitals. On 20th March 394 beds had been increased across the state. The number of bed increased to 428 on 21st March. The numbers of beds are 472 on 24th of March. Isolation facilities with 1089 beds had been arranged on 25<sup>th</sup> March. It is 1071 on 26<sup>th</sup> March. On 28<sup>th</sup> March the number of beds increased to 1177. It becomes 1261 on 29th of March and the numbers of hospitals are 94 as on 29<sup>th</sup> March are arranged as quarantine hospitals. The number of hospital increased to 101 with the bed facility of 1327 on 30<sup>th</sup> March. At the end of March total 100 hospitals with 1317 bed facilities had been working across the states.

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Table2: Date wise information regarding COVID-19 in West Bengal (01.03.2020 to 31.03.2020)

Date	No. persons	No. of persons	No. persons	No. of persons	No. of	No. of	No. of	No. of	No. of	No. of
	under home	released from	under hospital	released from	sample	negative	positive	persons	persons	active
	quarantine	home quarantine	quarantine	hospital quarantine	tested	cases	cases	deceased	cured	cases
01.03.2020	22	41	0	25	0	0	0	0	0	0
02.03.2020	183	81	3	0	3	0	0	0	0	0
03.03.2020	345	89	0	0(3)	0	3	0	0	0	0
04.03.2020	176	115	1	0	1	1	0	0	0	0
05.03.2020	287	118	3	1	3	0	0	0	0	0
06.03.2020	64	119	3	2	3	6	0	0	0	0
07.03.2020	117	152	1	4	1	1	0	0	0	0
08.03.2020	84	160	2	0	0	0	0	0	0	0
09.03.2020	65	160	4	2	4	4	0	0	0	0
10.03.2020	24	173	6	4	3	2	0	0	0	0

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11.03.2020	18	176	3	5(4)	4	3	0	0	0	0
12.03.2020	153	198	3	3	2	3	0	0	0	0
13.03.2020	118	204	4	3	1	2	0	0	0	0
14.03.2020	1267	216	3	3	2	2	0	0	0	0
15.03.2020	2390	246	8	2	6	6	0	0	0	0
16.03.2020	6346	248	4	6 (6)	4	4	0	0	0	0
17.03.2020	36	248	10	2	8	7	1	0	0	1
18.03.2020	5598	267	15	8 (8)	7	7	0	0	0	0
19.03.2020										
20.03.2020	1128	300	14	10 (10)	17	9	1	0	0	1
21.03.2020	1190	616	19	8	9	19	1	0	0	1
22.03.2020	1312	630	21	9	14	0	1	0	0	1
23.03.2020	287	883	39	42 (42)	44	14	3	1	0	3
24.03.2020	31	1282	15	0*	18	46	2	0	0	2
25.03.2020	3969	1818	97	0	54	66	0	0	0	0
26.03.2020	24	1818	72	96	53	26	1	0	0	1
27.03.2020	0	1819	102	87	33	56	5	0	0	5
28.03.2020	10367	2251	68	105	59	35	2	0	0	2
29.03.2020	9864	2293	56	56	68	67	3	0	0	3
30.03.2020	0	2373	99	60	62	48	2	1	0	2
31.03.2020	103391	2705	87	59	24	47	5	1	3	5
Total	148856*	21709	762*	602	507*	484	27	3	3	27
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Source: www. Wbhealth.gov.in Bulletin Date: 01.03.2020 to 31.03.2020

The persons (within parenthesis) who were in hospital quarantine on last day had been under home quarantine.On 17<sup>th</sup> March 1 person tested COVID-19 positive who is an 18 year old male returned from UK on 15th March has kept in hospital isolation. On 20<sup>th</sup> March 1 person tested COVID-19 positive that is a 22 year old male returned from UK on 13th March has kept in hospital isolation. On 21st March 1 person tested COVID-19 positive who is a 23 years old female returned from Scotland on 19th March has kept in hospital isolation. On 22<sup>th</sup> March 1 person tested COVID-19 positive that is a 57 years old male withno travel history has kept in hospital isolation. Two males, aged 48 years, 20 years and one female, aged 47 years who are in direct contact of a positive case, tested positive on 23<sup>rd</sup> March, 2020. 57 years old male patient tested COVID-19 positive on 22<sup>nd</sup> March expired on 23<sup>rd</sup> March at a private facility. One male 58 years who returned from Egypt and one female who returned from UK tested positive on 24<sup>th</sup> March, 2020. On 26<sup>th</sup> march 1 male person aged 66 years admitted in a private facility has tested positive. On 27th March 1 male aged 11 years and four females aged 27 years, 45 years, 6 years and 9 months, all belonging to a closed group of siblings and relatives, have tested positive. They have history of contact to a positive case in Delhi who came from UK on 16<sup>th</sup> March.On 28th March 2 females aged 76 years and 56 years both get contact with COVID-19 positive case have tested positive. On 29th March 1 female aged 44 years and two males aged 52 years and 66 years admitted in different facilities as cases of Severe Acute Respiratory illness have been tested positive.On 30<sup>th</sup> March 2 males aged 77 years and 59 years admitted in different facilities as cases of severe acute respiratory illness have been tested positive. One female of 44 years with a case of Severe Acute Respiratory illness and COVID-19 positivity have expired in a Govt. hospital.On 31st March 1 female and four males, admitted in different facilities have tested positive. One of them had contact with suspect cases and the rest were patient of Severe Acute Respiratory illness. One female of 48 years with a case of Severe Acute Respiratory illness and COVID-19 positivity have expired in a Govt. hospital.

According to the data sheet of March, there is no positive case of corona virus till 16<sup>th</sup> March, 2020. The cumulative number of persons kept under home quarantine 149358. The cumulative number of persons kept under hospital quarantine 787. The total number of test conducted was 532. Total positive cases till date is 27, 3 persons died and 3 persons cured. \*The cumulative number of persons kept under home quarantine is 150482 and the cumulative number of persons kept under hospital quarantine797 and the number of test conducted is 543, according to the Bulletin published by the Director of Health services, Govt. of West Bengal, on 31.03.2020 which is contradiction with the date wise data given by the same. According to bulletin the persons in hospital quarantine on 24<sup>th</sup> March is 119 but the date wise date till 23<sup>rd</sup> March gives that the number of persons in hospital quarantine should be 64. It may possible that 55 persons shifted from home quarantine to the hospital quarantine.

The ICMR authorized testing laboratories that had been working in the state are seven and they are NICED, SSKM, Medinipur MCH, North Bengal MCH, School of Tropical Medicine, Apollo Hospital and Tata Medical Centre as published on 4<sup>th</sup> April. On 16<sup>th</sup> April the list extended to eight and it includes Dr. Lal's Pathlab. On 19<sup>th</sup> April the number increased to 10 and the laboratories enlisted are Maldah MCH and Command Hospital with the existing list of hospitals. On 12<sup>th</sup> of April it reaches 12 and includes RG Kar MCH, CNCI, New Town. One more laboratories included on 25<sup>th</sup> April which is Suraksha Diagnostics Pvt. Ltd. On 27<sup>th</sup> April the list includes Murshidabad MCH and the numbers of laboratories that are working at the end of April are 14.

The numbers of COVID hospitals are 59 and the numbers of institutional quarantine centers across the state are 511 on  $4^{th}$  April which include all districts. On  $7^{th}$  April the numbers are 61 and 524. On  $9^{th}$  April the institutional quarantine centers are 562. On  $10^{th}$  of April 64 COVID hospitals and

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582 institutional quarantine centers had been working across the states. The number of COVID hospitals increased to 66 on 15<sup>th</sup> April. At the end of April on 30<sup>th</sup> one more hospital

included as COVID hospital and the number of COVID hospital becomes 67.

Table 3: Date wise information regarding COVID-19 in West Bengal (01.04.2020 to 30.04.2020)

Date	No. of	No. of persons		ersons	No. of persons	No. of	No. of	No. of	No. of	No. of active
	persons	released from	under h	ospital	released from	sample tested	positive	persons	persons	cases
	under home	home	quarai	ntine	hospital	(Cumulative)	cases	deceased	cured	(Cumulative)
	quarantine	quarantine	(Cumul	ative)	quarantine				(cumulative)	
	(Cumulative)	(Cumulative)			(Cumulative)					
01.04.2020	57741	55036	877	247		659	10	3*	0	37
04.04.2020	52080	3036	1125	339	786	1042	12	0	0	49
06.04.2020	51074	3749	1394	246	1148	1301	12	0	0	61
07.04.2020	49114	6010	1477	262	1215	1487	8	2	0	69
08.04.2020	49010	6086	1598	369	1229	1657	2	0	0	71
09.04.2020	45858	9396	1723	378	1345	1889	9	0	0	80
10.04.2020	4474	11024	1840	393	1447	2095	9	0	0	89
11.04.2020	41497	14241	1964	411	1553	2286	6	0	0	95
12.04.2020	40576	15624	2085	329	1756	2523	0	2	0	95
13.04.2020	39178	17294	2270	422	1848	2793	15	0	0	110
14.04.2020	38496	18122	2395	439	1956	3081	10	0	0	120
15.04.2020	37691	19092	2570	513	2057	3470	12	0	0	132
16.04.2020	36982	20219	2714	489	2225	3811	12	3	0	144
17.04.2020	36071	21476	2816	506	2310	4212	18	0	55	162
18.04.2020	35209	22628	3027	(505)	2522	4630	16	2	62	178
19.04.2020	35081	23132	3233	(525)	2708	5045	20	0	66	198
20.04.2020	34944	23810	3328	(226)	3102	5469	47	0	73	245
21.04.2020	33305	25652	3394	(249)	3145	6182	29	3	73	274
22.04.2020	31023	28161	3505	(274)	3231	7037	26	0	79	300
23.04.2020	28433	31186	3595	(304)	3291	7990	34	0	103	334
24.04.2020	26716	33922	3659	(268)	3391	8933	51	3	103	385
25.04.2020	23618	36975	3726	(207)	3519	9880	38	0	105	423
26.04.2020	21288	39774	3787	(205)	3582	10893	38	2	105	461
27.04.2020	18629	42774	3888	(252)	3636	12043	43	0	109	504
28.04.2020	16052	45711	3970	(268)	3702	13223	18	2	119	522
29.04.2020	13307	48793	4085	(307)	3778	14620	28	0	124	550
30.04.2020	10773	57765	4179	(330)	3849	16525	22	11	139	572
Total						16525	545	30	139	572
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Source: www. Wbhealth.gov.in Bulletin Date: 01.04.2020 to 30.04.2020

According to the data sheet of April, there is 545 positive case of corona virus till 30<sup>th</sup> April, 2020. The cumulative number of persons kept under home quarantine 10773, the cumulative number of persons kept under hospital quarantine 4179 as on 30<sup>th</sup> April. The total number of test conducted was 16525. Total positive cases till date is 572, 36 persons died and 139 persons cured. \*On 1<sup>st</sup> April 3 female and 7 male had been tested positive. 2 male persons both aged 57 years and 1 male 62 years all having Severe Acute Respiratory illness expired. One of them had chronic renal failure another had Respiratory failure and the third one had high per tension and other Co-morbid conditions.

The ICMR authorized testing laboratory that had been workingon 1<sup>st</sup> May includes Peerless Hospital and Research center Ltd. On 2<sup>nd</sup> of May thelist extends to 16 and it includes AMRI Salt Lake.

The number of hospitals that had been treating COVID patients are 67 of which 15 are Govt. hospitals, 52 are private hospitals, the number of beds extended to 8036, /ICU beds 860 and ventilators 271. On 7<sup>th</sup> of May another Govt. hospital included as COVID hospital and correspondingly the number of beds increased to 8570, ICU beds increased to 907 and ventilators are 392. Another Pvt. Hospital includes in the list and the number of beds became 8785, and 920 is the number of ICU beds as on 19<sup>th</sup> May.

These 69 COVID hospitals and 16 ICMR authorized testing laboratories had been working at the end of the May across the state.

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**Table 4:** Date wise information regarding COVID-19 in West Bengal (01.05.2020 to 31.05.2020)

	Table 7.		manon regardii	1g COVID-19 1	ii west benga	1 (01.05.	.2020 10 3	1.03.2020)	
Date	No. of persons under home quarantine (Cumulative)	No. of persons released from home quarantine (Cumulative)	No. of persons under hospital quarantine (Cumulative)	No. of persons released from hospital quarantine (Cumulative)	No. of sample tested (Cumulative)	No. of positive cases	No. of persons deceased	No. of persons cured (cumulative)	No. of active cases (Cumulative)
01.05.2020	10165	58400	4279	4016	18566	57	8	154	629
02.05.2020	8357	60435	4412	4158	20976	70	7	199	699
03.05.2020	6953	62365	4532	4230	22915	41	2	199	740*
04.05.2020	69520	63765	4860	16280	25116	61	1172 <sup>1</sup>	218	1259
05.05.2020	70186	64625	4712	16727	27571	85	7	264	1344
06.05.2020	74638	64975	4604	17244	30141	112	4	265	1456
07.05.2020	75083	65465	4757	17610	32752	92	7	296	1548
08.05.2020	75541	65965	4964	18307	35767	130	9	323	1678
09.05.2020	80969	66479	5478	18796	39368	108	11	372	1786
10.05.2020	85477	67019	5921	19453	43414	153	14	417	1939
11.05.2020	90915	67619	6689	19945	47615	124	5	499	2063
12.05.2020	92495	68199	6978	21022	52622	110	8	612	2173
13.05.2020	94956	68599	8146	21794	57632	117	9	702	2290
14.05.2020	103493	69079	8980	22696	62837	87	8	768	2377
15.05.2020	115280	69599	8882	24389	69543	84	10	829	2461
16.05.2020	120347	70089	9667	25804	77288	115	7	892	2576
17.05.2020	127893	70709	10561	27740	85956	101	6	959	2677
18.05.2020	148474	71239	11571	29615	93570	148	6	1006	2825
19.05.2020	158841	71889	12482	32112	102282	136	6	1074	2961
20.5.2020	167211	72489	12661	34104	111002	142	3	1136	3103
21.05.2020	169526	72978	13044	35899	115244	94	6	1193	3197
22.05.2020	171954	73498	14614	36651	120599	135	6	1221	3332
23.05.2020	176356	74088	15193	38089	129608	127	4	1281	3459
24.05.2020	176957	74608	16265	39538	138824	208	3	1339	3667
25.05.2020	178108	75218	17171	40790	148049	149	6	1414	3816
26.05.2020	183040	79476	18146	42202	157277	193	5	1486	4009
27.05.2020	186707	81242	18121	44075	166513	183	6	1578	4192
28.05.2020	191990	82433	17421	46027	175769	344	6	1668	4536
29.05.2020	200134	84556	16502	47988	185051	277	7	1775	4813
30.05.2020	211999	86712	16152	50185	194397	317	7	1970	5130
31.05.2020	225242	89712	16818	51887	203751	371	8	2157	5501
Total	225242	89712	16818	51887	203751	4471	212	2157	5501

Source: www. Wbhealth.gov.in Bulletin Date: 01.05.2020 to 31.05.2020

According to the data sheet of May, the cumulative number of persons kept under home quarantine 225242, the cumulative number of persons kept under hospital quarantine 16818 as on 31stMay. The total number of test conducted was 203751. Total positive cases till date is 5501, 245 persons died and 2157 persons cured.\*The number of COVID-19 positive cases till 3<sup>rd</sup> May was 740 as published in the Bulletin on 3<sup>rd</sup> May but this number is 1198 according to the West Bengal Health Bulletin published on 4rth May. 458 persons may get positive COVID-19 on or before 3<sup>rd</sup> May. So, to get the total number of positive cases in the month of May need to add 458 persons with 4471 which is 4929. ¹Total number of death due to Comorbidity are 72.

In the month of June, the cumulative number of persons kept under home quarantine 313603, the cumulative number of persons kept under hospital quarantine 6795 as on 30th June. The total number of test conducted was 488038. Total positive cases till date is 18559, 668 persons died and 12130 persons cured. So, the active cases in the month of June are 13058 and the number of persons died in the month is 456. Total numbers of COVID 19 beds are 10479 and the number of ICU beds and ventilation increased to 948 and 395 respectively. In addition to that government has made

arrangement for the migrant returnees and total number of quarantine facilities for their safety is 3577. Total 244871 migrant workers released from there till  $30^{th}$  June.

**Table 5:** District wise active cases of COVID-19 in West Bengal (Till 30.06.2020)

S.No.	District	Total Cases	Total	Total	Total			
		COVID-19	Cure	Death	Active			
					Cases			
1	Alipurduar	182	153	0	29			
2	Cooch Behar	303	296	0	7			
3	Darjeeling	488	257	10	221			
4	Kalimpong	52	46	1	5			
5	Jalpaiguri	353	280	0	73			
6	Uttar Dinajpur	300	230	1	69			
7	D. Dinajpur	214	142	0	72			
8	Malda	646	369	1	276			
9	Murshidabad	236	178	4	54			
10	Nadia	319	237	5	77			
11	Birbhum	305	276	3	26			
12	Purulia	90	87	0	3			
13	Bankura	248	203	1	44			
14	Jhargram	19	19	0	0			
15	PaschimMedinipur	376	320	5	51			
16	PurbaMedinipur	333	236	4	93			
17	PurbaBardhaman	171	145	1	25			
18	PaschimBardhaman	141	116	3	22			
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19	Howrah	2692	1830	97	765
20	Hooghly	1015	703	23	289
21	North 24 Pargana	2933	1675	101	1157
22	South 24 Pargana	1093	516	26	551
23	Kolkata	5984	3753	379	1852

Source: www. Wbhealth.gov.in Bulletin, relevant District

The table 5 shows the detail of COVID-19 cases as well as active cases in all districts of West Bengal. It is clear picturethat the most effected places are Kolkata, North 24 Pargana, Howrah, Hooghly, South 24 Pargana. Darjeeling, Malda are also in high risk. Though the number of effected people in Howrah is less in comparison to Kolkata, still the chances of getting effected is more.

### 2. Concluding remarks

The official death toll from COVID 19 in the West Bengal passed 668 at the end of June, thus there is a high rise from 245 to 668. Also 72 people died due to other health problems but with COVID positivity as said by the officials and termed as "death due to co-morbidity". Long before, the Govt. began tracking the infected persons from the beginning of the month of February and started developing the medical infrastructure to fight against the pandemic. To combat this disease India government declared complete lockdown on 24<sup>th</sup> March (25<sup>th</sup> March to 14<sup>th</sup> April=21 days) and to maintain social distancing. International air communication and internal air communication declared to close temporarily. All communication with other state and within state completely closed. The Government of West Bengal is also following the guidelines published by ICMR and Govt. also published bulletin, circulations, guidelines etc. The lockdown extended till 30th June in five phases. The lockdown helps to flatten the rise in active case i.e. the spread of the disease and also helps the Govt. to get time for developing the medical facilities to fight against the pandemic during the spike. The red zones are identified time to time and the state Govt. makes the people aware by doing press conferences. From 1st June the unlock phase has started as declared by the Govt. of India in the green zones and the containment zones will remain locked. With world the West Bengal is simultaneously gripped by a pandemic, social unrest -multifold crisis unlike any in recent history. In my views the unlock phase is also very important for the economy. As interstate travelling is now allowed by various means, also people can move from one district to another and free movement of the people except the containment zones are allowed though with proper safety measures, there is a high possibility of speeding the virus during this unlock phase. The data clearly shows that the number of positive cases is high around the urban areas of the states and as well as the containment zones published by the state Govt. justifies the fact. Initially the test conducted by the state Govt. was mostly concentrated on the urban areas. At the end of May the testing centers increased to 62, and the number of test conducted increases in the rural areas of the states. The migrant people are now coming to their home are mostly village people. And the data tells fact of raising the positive cases at the end of May in the rural areas of the state. The people coming from other states must be escort to the quarantine center as soon as they reach to their destination. The concept of home quarantine is not

applicable for the people of below poverty line. Most of the family stays in a single room with four to five members or even more, they share same toilet also. By separating the migrant people from the society for at least fourteen days will save the people of the state. But at the end of June there is a sharp rise in the number of active case and death throughout the state. This clearly shows that people are still neglecting the fact and are not maintaining the social distancing. All the educational institutions are closed from 17<sup>th</sup> of March before the lockdown has started, a very good initiative taken by the Govt, of India as well as the state. Children are the heart of a family and the Govt. must be as sensitive as they are in the recent past. In my view, the Govt. should think about the re-opening of the educational institution at the end of all unlock phases in all zones, when there should no containment zone.

Notes and Conferences

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