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Orissa Economic Journal

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COVID-19 Special Issue-II

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**Journal of the
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Editorial

I Introduction

It would be no exaggeration to assert that one of the gravest health calamities that the world has had to encounter over the past hundred years is the present COVID-19 pandemic that is still very much upon us. On the day of writing this overview, 11th December 2020, the world has already recorded around 69.6 million cases, with about 1.6 million deaths. Of these, India's share has been 9.8 million and 1.4 lakh, respectively. In absolute terms these numbers are already rather high. Owing to the nature of the corona virus, which has a very high possibility of community spread, virtually all countries of the world have had to undertake and enforce prolonged periods of lockdowns and closures of schools, colleges, government offices, courts, market places, and other places of public gathering. In many countries, including India, industries have had to shut down, and most modes of transport have had to be very severely curtailed. The impact of all this on economic activity has been devastating. In the first quarter, April-June of 2020-21, the Indian economy shrank by an unprecedented 23.9 percentage points. The rest of the world also has had to bear the fury of the pandemic in varying degrees.

The COVID-19 pandemic has not merely posed a threat to life but also livelihoods at large. It has already brought about substantial loss of lives and job losses in the US and other major West European countries. Its fatality quotient in the developing world has fortunately been weak. However, its spread potential is perhaps the most in these parts, given the living conditions and environment of the developing world. Appearing in the scene since eight months, its spread remains unabated while the treatment protocol seems to be, at best, tentative.

The possibility of a vaccine, however, seems to be emerging in the horizon. Given the asymptomatic nature of this infection, it has rather made it impossible to ascertain its real grip over the population and that has led to umpteen sets of safety measures to be in place, which has not only crippled the means of living for many, but has also brought about a changing order of living termed as new normal. While one is not sure as yet as to how long it is going to sustain its threat over humanity, the alternative order of living, the nature of exchanges as well as societal arrangements at large seem to be

responding, though only very slowly or in a gradual manner. One needs to perhaps rewrite the common scheme of things with regulations and protocols which were otherwise hitherto overlooked.

II The pandemic and its bearing on the economy and society

In the absence of a definite course of treatment for this infection as well as its protection through vaccination, emphasis has been laid on its containment. The containment measures are in terms of lockdown, social distancing and adoption of proper hygiene practices to keep the infection at bay. While these measures undoubtedly can arrest the spread of infection to a reasonable extent, one wonders as to its implementation in the prevailing living environment on one hand and its differential consequences on various population segments on the other. Measures like social distancing and lockdown seem to be emerging from a middle class mindset that overlooks the larger reality of life and livelihood of the masses. In fact, such containment measures are not only having a 'privilege' bias, but they have also compromised the state of living of a large share of our population that is least resilient to bear the brunt of the changing order of life.

Imposition of such measures have brought to the fore many aspects that were otherwise overlooked, like basic needs, social protection, and resilience to withstand shocks arising out of the unprecedented situation. A country with a billion plus population was for the first time made aware of its vulnerabilities when it had to put up with the chaos that emerged while fighting this pandemic. The vulnerabilities included compromised state of living in urban spaces, a predominant workforce in the unorganised sector without any protection whatsoever and, above all, the limited duration of survival without paid work. Apart from these vulnerabilities, the health infrastructure with a skewed public-private divide is far from sufficient to handle such eventualities. The disparate distribution of health workforce across regions added to the woes further. Given these vulnerabilities, the reading and understanding of the trajectories that the economy is going to assume gained utmost significance. While the immediate implications were in terms of protection of the masses through provisioning of means of survival, the renewal of economic activities in many sectors poses a grave challenge given the pre-COVID-19 work environment, alongside the predominance of informal nature of work.

The pandemic has given rise to a multiplicity of issues cutting across sectors, and is going to leave a scar that would last for quite long. The threat of its spread enforces a different order of living and functioning that has enforced alternative means of conducting routine affairs in almost all sectors. The most visible departure has been from the real to the virtual, personal to impersonal, and the vehicle for this has been the digital interface. It becomes therefore pertinent to engage in understanding its impact on various facets of the economy and society. The *Orissa Economic Journal*, being an instrument of exposition on the concurrent changes in the economy and society, makes a pitch for engagement with this unprecedented circumstance through its pages wherein thoughts and opinions are presented with contributions relating to specific domains. The twin foci have been on the health sector and the economy.

As regards the economy, there are a varied set of propositions that are made in terms of the consequences and sector specific impacts. While the economy has taken the worst beating in terms of shrinking GDP, rising unemployment along with a threat of recession, scholars in this issue have made scientific attempts at forecasting the GDP in times of such a crisis. Such a reading of the economy considering the emerging circumstances undoubtedly provides an expected trajectory of the regional and the national economy. Besides this assessment, attempts have been made to analyse selected sectors of the economy considering the extent of informality therein that brings to the fore the kind of vulnerability associated with the prevailing informality in the Indian economy. This not only calls for reducing informality to a great extent but also provides a ground or the kind of protection that is essential in many of these sectors.

Another segment of papers which largely focus on the health sector comprises challenges posed by the pandemic to the prevailing health system in general and public health outlook in particular. This also includes a region specific assessment of imposition of preventive measures of containing the pandemic among the masses wherein the impracticality of such measures to be effective on the ground along with the lack of feasibility to adhere to such measures have been discussed. When it comes to the health system response, the obvious inadequacy of the infrastructure and its regional disparities are also highlighted. In fact, these analyses of the situation implicitly or explicitly emphasise the role of inter-sectoral coordination that becomes handy in such emergencies. The set of contributions undoubtedly highlight the vulnerability of the informal work force, inadequacy of health system infrastructure, and also the need for

recognition of the distressed migration for the state for employment. While these are not new, their analytic exposition and consequential features offer added evidence to act towards making things better to confront similar challenges in future.

III Some Specific Cases

The contributions made in the volume are not only informative but also can serve towards understanding the economy from wide ranging perspectives. Some of the unique perspectives may be mentioned here. First, COVID-19 has impacted the education sector at large, and the schools and colleges in particular, to a very significant extent. Most educational institutions have remained closed. There is a study that looks at the E-Vidya Programme in the KBK (Kalahandi-Balangir-Koraput) districts. After COVID-19 most classes moved into the online mode. The author however points out that only about 5 to 8 per cent households in the urban areas and barely 2 per cent in the rural areas possess laptops and have access to the internet. Under the present circumstances, therefore, the online teaching programme in these poor far flung districts are bound to be a failure. Another case study looks at the impact of COVID-19 on the handloom sector in Odisha. There are about 1.18 lakh handloom workers in the state. It is revealing to note that as many as 89% of the handloom workers earn less than Rs 5000 per month, and their families live in rather precarious conditions. The onset of COVID-19 has resulted in nil demand for their products, which has intensified their financial difficulties.

IV Concluding Remarks

The COVID-19 pandemic has provided a unique vantage point to reflect on the nature of social and economic development that the world has witnessed after the onset of Industrial Revolution in the middle of the eighteenth century in England and some of the major European countries. By the time Adam Smith published his *Wealth of Nations* in 1776, he had already witnessed and theorised about the clear advantages of 'division of labour' and specialisation. By the beginning of the nineteenth century, England was dotted with hundreds of factories. Labour was being drawn from agriculture to work in factories. The factory owners, or the capitalists, were out to maximise their profits, and this was realised at the cost of labourers living in appalling conditions in industrial townships. Man was out to conquer nature and produce goods and services at a fast pace to satisfy human wants. This however led to a massive

destruction of the flora and fauna. Such an emerging development trajectory was already evident to some of the later classical masters such as John Stuart Mill.

In his *Principles of Political Economy* published in 1848 Mill argued against the singular focus on economic growth and boldly welcomed a stationary state. He imagined a state where there would be a stable population and thanks to technical innovations, people in general would be assured of a comfortable existence. Mill saw this as the beginning of a benign world where mankind would turn its attention to the serious and meaningful matters of liberty and justice, so that all individuals are able to realise their full potential. After a few weeks' lockdown there have been innumerable instances of rejuvenation and renewal of natural phenomena within India and across the globe. The quality of water in the Ganges distinctly improved, and the snow-capped peaks of the Himalayas could be seen from cities like Jalandhar after more than a hundred years!

What we are trying to emphasise, in other words, is that one of the unexpected fallouts of the COVID-19 pandemic is the vital truth that humans need to respect nature and learn to live in harmony with natural phenomena. This would also call for revisiting the scope of age old subjects of study like economics.

The editors of this volume would like to applaud the initiative of the Orissa Economic Association to publish this special issue on the economic and social implications of the COVID-19 pandemic. The contributors have addressed diverse aspects of the economic fallouts of COVID-19 as it has affected the state of Odisha in particular. It is hoped that these essays will help us understand the nature of this major calamity in a more informed manner.

Pulin B. Nayak and Udaya S. Mishra

COVID-19 and Health Sector Challenges in Odisha

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Minati Mallick
Himani Majhi

Abstract

Originating in Wuhan city of China in December 2019, COVID-19 has engulfed 214 countries around the world so far. The first COVID-19 positive case was diagnosed in the state of Odisha on March 15 when a student from Bhubaneswar, studying in Italy tested positive. It was very much consoling as the state took 114 days to register its first 10,000 cases with a death toll of 6 only. However, within only 15 days, the number doubled to become more than 20000, and to add 10,000 more, it took only 8 days, indicating the rapid spread of the disease. In July only, the state had 152 new deaths with Ganjam district being the worst hit. Though the recovery rate is high, the number of new cases is increasing rapidly. Since March, the state was striving hard to face the challenge with opening up of 48 COVID hospitals in all the 30 districts, more number of testing centres and engagement of more doctors and other medical staff, opting for lockdowns, periodic and complete and going for stringent legal action for violators of COVID guidelines.

The state is already having woefully in adequate health infrastructure. This adds to the existing problem. Therefore, it is suggested that a broad health infrastructure of quality should be developed, more doctors, nurses and other health personnel need to be employed, and more research laboratories should be instituted to handle emergency situations; for which, the health sector should get a higher share in the state's GDP.

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Keywords: COVID-19, Pandemic, Health, Infrastructure

1. Introduction

Originating in Wuhan city of China in December 2019, COVID-19 has engulfed 214 countries around the world as on July 31, 2020. Considering the intensity of contagiousness of the disease and the speed of its spread, The World Health Organisation (WHO) declared this new coronavirus outbreak as a “Public Health Emergency of International Concern” officially on Thursday, January 30, 2020 and as a pandemic on March 11, 2020. There are 3,81,53,664 cases of COVID-19 around the world and the death toll is 10,86,907 with the most developed country USA at the top with over 80,044,067 confirmed cases and 2.20 lakh deaths.

India is in third position with total confirmed cases of 7,205,923 and a death toll of 1,10,118 so far. It is the only Asian country hard hit by the pandemic. Though the recovery percentage is claimed to be 87 per cent (the highest in the world), the country is still struggling to contain the spread of the disease. All the states and UTs are affected except Lakshadweep. The state of Maharashtra is worst affected, where the total number of confirmed cases is 15,35,315 and number of deaths is 40,514. States like Andhra Pradesh, Assam, Bihar, Chhatisgarh, Gujrat, Haryana, Kerala, Delhi, Karnataka, Mandhya Pradesh, Tamilnadu, Rajastan, Telangana and Odisha have reported more than 1 lakh confirmed cases. Odisha has the second highest confirmed cases (2.5 lakh) after West Bengal (2.9 lakh) from among the eastern states of the country.

In this backdrop, the present paper attempts to study the impact of COVID-19 pandemic on the health sector of Odisha and the health measures taken by the Government of Odisha to confront the menace of the pandemic and is organised in the following manner. Section-II gives a picture of the spread of the disease in Odisha, while the healthcare measures undertaken by the Government of Odisha with a brief note of the challenges faced during a pandemic is presented in Section-III, followed by the concluding section.

2. Spread of COVID-19 in Odisha

The first COVID-19 positive case was diagnosed in the state on March 15 when a student from Bhubaneswar studying in Italy tested positive. It was very much consoling as the state took 114 days to register its first 10,000 cases with a

death toll of 6 only. However, within only 15 days, the number doubled to more than 20000 and to add 10,000 more, it took only 8 days, indicating the rapid spread of the disease. In July only, the state had 152 new deaths, even though it had declared complete lockdown in hotspot districts like Ganjam, Khurda, Cuttack, Sundargarh and weekend shutdowns in the districts where the positive cases crossed the 100 mark. Till mid-May, the government of Odisha was highly praised for its efficiency in containing the spread of the pandemic. The things changed dramatically after 2 months and the state was found beating Gujarat and Delhi in terms of the daily report of confirmed cases. Mass influx of eight lakh migrant workers from hotspot areas like Mumbai and Surat, many of whom did not follow either social distancing norms while travelling or quarantine rules strictly, accounts for this mostly. The majority that is around 4 lakh migrants returned to Ganjam only making it a coronavirus hotspot in the state with highest number of patients as well as casualties.

Table 1 provides the present COVID-19 picture of the state as compared to that of the country and the world as a whole. It shows the cumulative figures of total confirmed cases, total recovered, deaths and active cases. It reflects how alarming the situation is as on October 13, 2020 when 2,56,937 were reported to be infected by the virus as against 72 lakh in the country and 3.81 crore around the world. The recovery rate of 90.67 per cent, which is higher than that in the country and the world is quite satisfactory, but the pace with which the disease is spreading keeps the state administration on their toes and the general public in a panic. People are somehow staying courageous as the death rate is as low as 0.4 per cent in the state as against 1.5 per cent and 2.8 per cent in the country and the world, respectively. The relative position of Odisha, India and world can clearly be observed in Figure 1.

Table 1: Cases of COVID-19 in Odisha, India and World as on October 13, 2020

	Confirmed	Active	Recovered	Deceased
Odisha	2,56,937	22,839	2,32,988 (90.67%)	1,057 (0.4%)
India	72,07,257	8,38,341	62,57,658 (86.82%)	1,10,163 (1.5%)
World	3,81,53,664	83,89,076	2,86,77,681 (75%)	10,86,907 (2.8%)

Source: mygov.in (India), www.worldmetersinfo

Figure 1: Cases of COVID-19 in Odisha, India and the World as on October 13, 2020

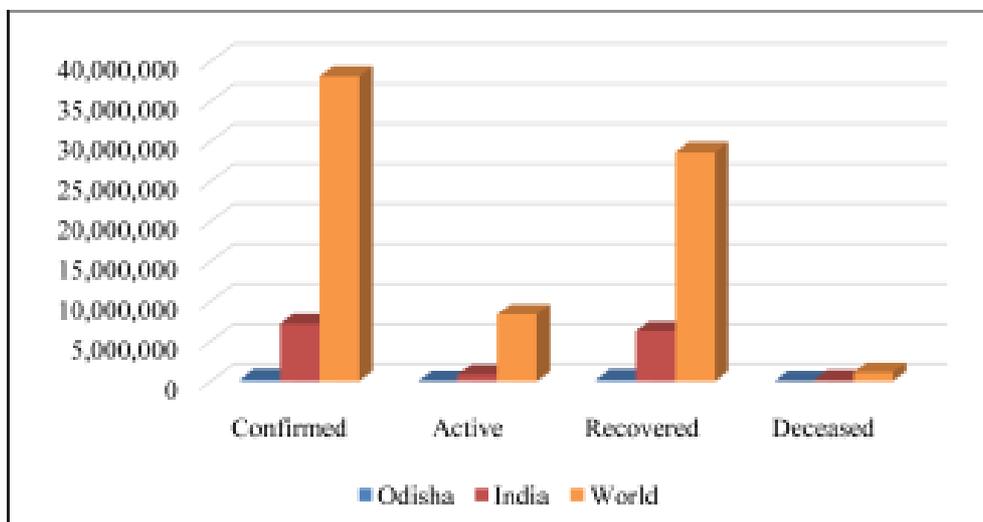


Table 2 gives a clear picture of the total number of confirmed, active, recovered and deceased cases across the 30 districts of Odisha. Ganjam is at the top of the list showing a grim situation in the district. Though a death toll of less than 10 in 6 districts so far brings hope among people, the speed of spread is alarming. As Figure 3 shows, the curve touched the peak on September 20, and then had a downward trend. It is expected that soon we shall be free from the clutches of the deadly virus.

Table 2: District wise Confirmed, Active, Recovered and Deceased Cases as on October 12, 2020 in Odisha

Sl. No.	District	Confirmed Cases (Total)	Active (Total)	Recovered	Deceased
1	Anugul	5878	1339	4531	8
2	Balangir	5405	853	4527	25
3	Balasore	8726	810	7853	58
4	Bargarh	7543	967	6562	14
5	Bhadrak	5998	611	5368	15
6	Boudh	2181	207	1968	6
7	Cuttack	23,262	1936	21,234	88
8	Deogarh	841	142	698	1

9	Dhenkanal	4409	486	3911	12
10	Gajapati	3721	68	3628	24
11	Ganjam	20,660	214	20,216	222
12	Jagatsingpur	6170	675	5480	15
13	Jajpur	9618	1075	8527	15
14	Jharsuguda	5393	459	4931	3
15	Kalahandi	4121	741	3365	15
16	Kandhamal	5135	375	4735	25
17	Kendrapada	6308	1028	5264	15
18	Keonjhar	5237	485	4738	12
19	Khurda	43,924	4206	39,532	176
20	Koraput	6700	475	6212	13
21	Malkangiri	4200	447	3737	13
22	Mayurbhanj	9537	1077	8425	32
23	Nuapada	4277	890	3386	1
24	Nayagarh	5424	474	4913	35
25	Nabarangpur	4443	670	3763	8
26	Puri	11,384	1081	10,231	69
27	Rayagada	7767	183	7545	39
28	Sambalpur	7220	1076	6120	24
29	Sonepur	3725	584	3131	10
30	Sundargarh	8872	1141	7680	47
	Total	248079	24775	222211	1040

Source: Covid-19 Dashboard Government of Odisha

Figure 2: District wise Confirmed, Active, Recovered and Deceased Cases as on October 12, 2020 in Odisha

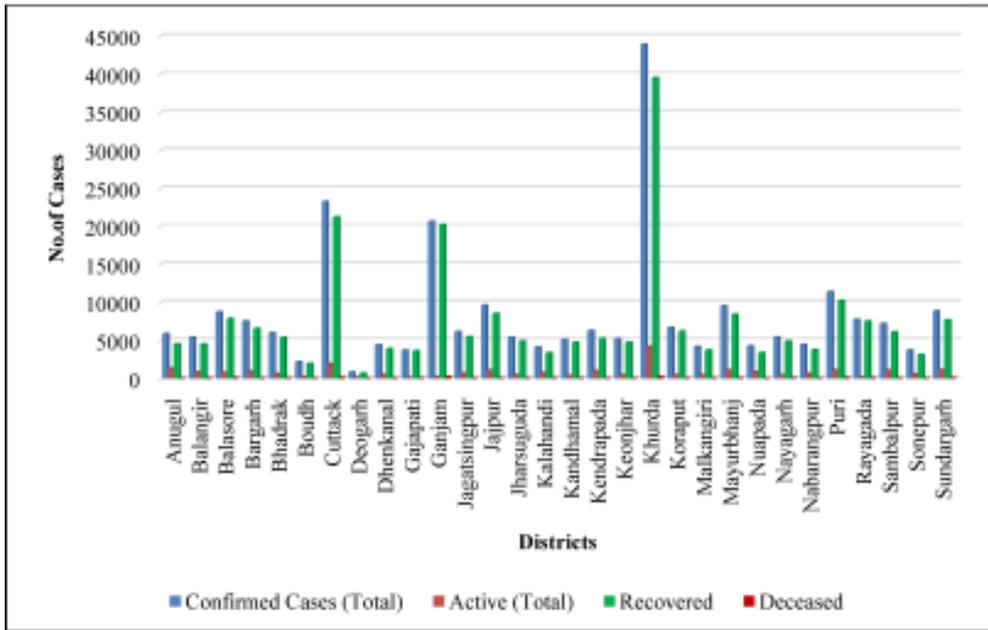


Figure 3: Date wise Number of Cases on October 12, 2020

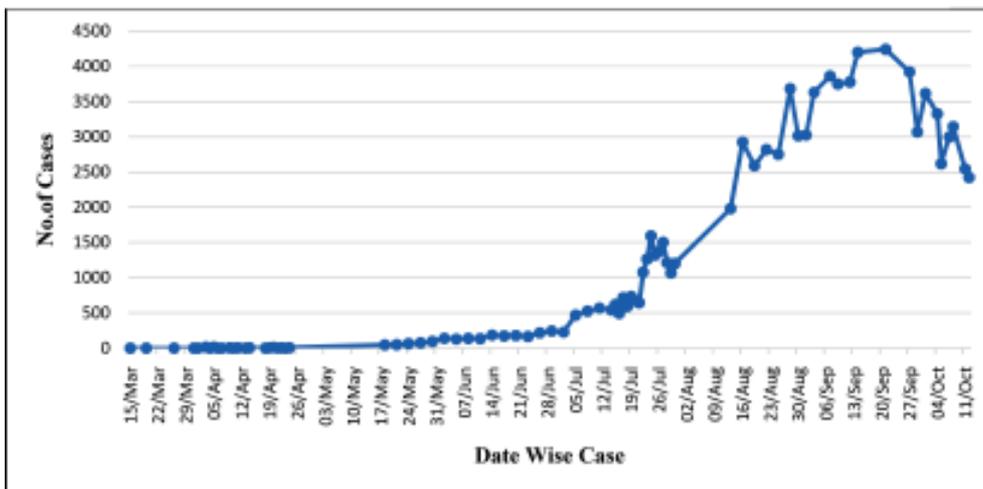


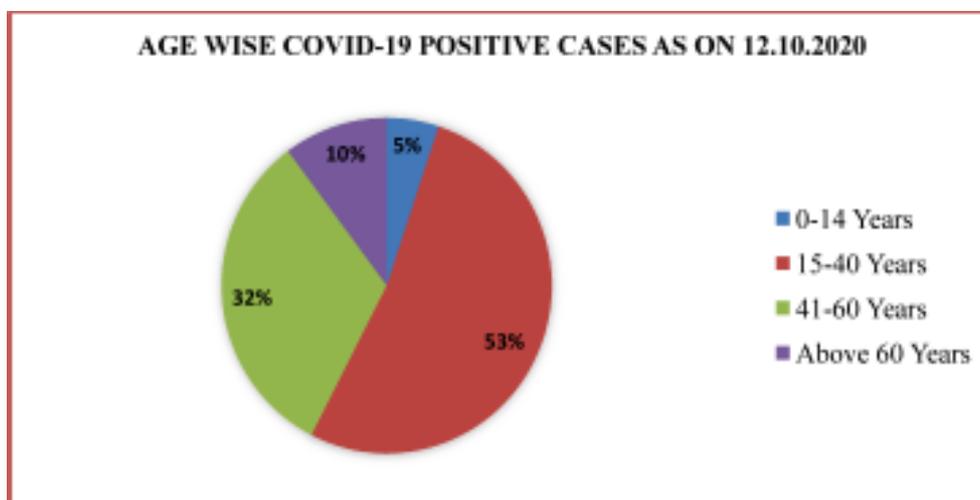
Figure 4: Age wise COVID-19 Positive Cases

Figure 4 shows the date wise and age wise data on COVID-19 cases in the state. Contrary to the common notion that it affects the elderly and children more, the data show that the highest i.e., 53 per cent fall in the age group of 15 to 40 years followed by 32 per cent of total infected within the age group of 41 to 60, as the young people and the working group are highly exposed to the virus.

3. Initiatives Taken by Government of Odisha

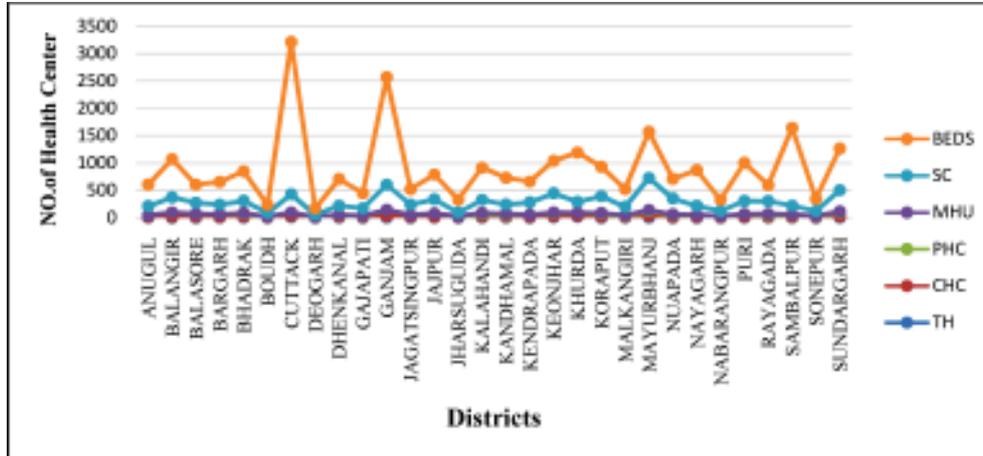
On March 13 itself, Odisha, the state always praised for its efficiency in disaster management, declared the COVID-19 pandemic a state disaster and promptly came into the action mode. The state was already equipped with a set of health infrastructure facilities as detailed in Table-3. As shown in the table, the number of hospitals in different forms in the state was highly inadequate to extend health assistance to the patients initially. There are only 140 hospitals, 385 CHCs, 1274 PHCs, 199 MHUs, 6688 SCs and only 18387 beds, extending service to a population of 4.68 crore. Many of the hospitals do not have ICUs. If they have ICUs, many of those are not functioning. So far as doctor-population ratio is concerned, Odisha is at 8th position among the bottom 10 states with a ratio of 1: 2597 in the country with only 18017 registered medical practitioners.

Table 3: District wise Health Infrastructure in Odisha

Sl. No.	District List	TH	CHC	PHC	MHU	SC	BEDS
1	Anugul	4	11	31	1	166	392
2	Balangir	3	15	76	2	275	699
3	Balasore	2	16	46	5	204	330
4	Bargarh	4	7	50	1	178	414
5	Bhadrak	5	15	48	15	226	538
6	Boudh	1	5	12	2	67	153
7	Cuttack	13	19	63	0	332	2784
8	Deogarh	2	4	6	1	42	116
9	Dhenkanal	7	10	30	5	167	487
10	Gajapati	2	8	19	8	136	273
11	Ganjam	5	29	108	0	460	1967
12	Jagatsingpur	1	15	33	1	189	284
13	Jajpur	4	13	59	1	260	452
14	Jharsuguda	2	7	18	1	66	234
15	Kalahandi	4	17	43	19	242	589
16	Kandhamal	6	14	32	17	172	488
17	Kendrapada	2	7	44	0	227	381
18	Keonjhar	9	18	56	12	351	593
19	Khurda	21	15	52	1	202	899
20	Koraput	2	17	52	15	307	536
21	Malkangiri	4	5	22	10	158	326
22	Mayurbhanj	8	28	80	20	589	843
23	Nuapada	2	9	40	11	289	360
24	Nayagarh	1	12	37	1	166	650
25	Nabarangpur	1	4	17	7	95	206
26	Puri	6	15	42	1	241	698
27	Rayagada	4	11	36	17	235	291
28	Sambalpur	4	12	34	4	167	1419
29	Sonepur	3	5	16	7	89	222
30	Sundargarh	8	21	69	14	390	763
	Total	140	385	1274	199	6688	18387

Source: Odisha Economic Survey 2019

Figure 5: Healthcare Centres in Odisha



Source: Odisha Economic Survey 2019

On March 18, the Government announced the Odisha COVID-19 Regulations, which is valid for a year with strict instructions to both government and private hospitals to organise dedicated COVID-19 isolation facilities. It started a dedicated COVID-19 helpline before the nationwide lockdown was declared on March 24, 2020. It also made it mandatory for all visitors of the state to register on the COVID-19 portal and announced an incentive of Rs 2000 per head for completing 14 days quarantine. A total amount of Rs 110,88,12,000 has been spent towards this from the Chief Minister’s Relief fund.

The state started early in setting up of testing centres (8) with an aim of testing 15000 samples per day, but could hit the target unfortunately, allowing the disease to spread.

On March 17, the government instructed the prisons to keep newcomers in isolation for 14 days and provide e-Mulakat facilities.

India’s first exclusive COVID-19 hospital was inaugurated on April 2 in KIIMS and Ashwini hospital in Odisha with 625 beds and to be managed and funded by OMC. The testing and treatment have been provided free of cost in all the testing centres and earmarked hospitals are spread all over the state. The expenditure is borne by the state exchequer. As a result, the state is now equipped with massive COVID healthcare facilities spread over all the 30 districts of the state as detailed in Table-4.

The Department of Health and Family Welfare ensured the engagement of staff nurses and paramedics to handle the COVID cases. On April 3, additional duties and responsibilities were assigned to hospitals and local bodies such as infection control measures. The state government and empowered officials can declare any government and private hospitals as COVID hospital.

Table 4: COVID-19 Healthcare Facility in Odisha October 12, 2020

Sl. No.	Districts	TMCS	Total Beds	Total ICU Beds	Covid Care Center	Covid Hospital
1	Anugul	333	11830	10	2	1
2	Balangir	897	60288	10	3	1
3	Balasore	1017	34275	12	5	1
4	Bargarh	404	22892	8	3	2
5	Bhadrak	251	25121	4	10	1
6	Boudh	101	4029	0	2	1
7	Cuttack	630	22950	40	1	1
8	Deogarh	185	5672	0	2	1
9	Dhenkanal	367	18084	6	5	1
10	Gajapati	206	20005	0	5	1
11	Ganjam	3020	146457	20	7	7
12	Jagatsingpur	445	14899	5	4	1
13	Jajpur	1382	43165	10	1	1
14	Jharsuguda	145	4882	17	8	1
15	Kalahandi	801	30594	6	10	1
16	Kandhamal	272	17201	0	10	1
17	Kendrapada	1152	51037	9	9	1
18	Keonjhar	591	30881	6	19	2
19	Khurda	385	25087	70	2	4
20	Koraput	399	16255	4	1	1
21	Malkangiri	368	20408	4	2	1
22	Mayurbhanj	837	35124	10	27	1
23	Nabarangpur	289	16228	5	3	1
24	Nayagarh	445	17162	0	3	1

25	Nuapada	765	35847	0	1	1
26	Puri	720	27002	0	9	3
27	Rayagada	330	23600	0	6	1
28	Sambalpur	210	12723	20	1	1
29	Sonepur	279	7672	20	12	1
30	Sundargarh	439	24709	0	5	2
	Total	17647	826079	296	178	48

Source: Covid Dashboard Government of Odisha

There was an issue of SOP for Telemedicine platform to provide distant medical care during Covid-19. Provision of special incentives for doctors and paramedics working in Covid hospitals and Covid care home is being made since 20th July.

The government has issued order on 14.7.2020 to engage unemployed trained and registered ANMs, staff nurses and pharmacists in Covid care homes with daily pay of Rs 850 and Rs 1000 respectively.

The government has considered a diet allowance of Rs. 240 rupees per day to doctors and paramedical staff working in Covid care centres.

On July 27, Ministry of Health and Family Welfare has issued instruction to medical colleges to deploy 241 PG doctors of the 2020-21 batch for working in different COVID and non-COVID hospitals as and when required. This is going to boost the strength of hospitals. The final year medical students were provided with special training to handle COVID cases. The ASHA workers and ICDS employees are working day and night to trace the infected people through door to door survey and send them to swab collection centres.

Earlier, the government had declared insurance of an amount of Rs. 50 lakh to the doctors who succumbed to COVID-19 while in the active line of duty. On July 29, it issued guidelines for financial assistance to the spouse/next of kin of the affected medical personnel but not eligible for insurance coverage.

4. Conclusion

COVID-19 has posed a huge challenge to every government. It has hugely

affected economic activity, be it agriculture, industry or services sectors. People are losing jobs, production has gone down, demand is adversely affected, schools are closed and revenue collection has gone down while health expenditure has escalated. However, protection of the life of the citizens is of utmost importance in the present situation.

In Odisha, the corona virus has largely affected the health sector. Both the infrastructure and personnel engaged in the health sector are highly inadequate. The death of doctors and other health service providers due to COVID-19 is aggravating the situation. With the current engagement of a large number of health professionals and support staff towards COVID-19, patients suffering from chronic diseases and other ailments are deprived of healthcare facilities. There have been media reports of people dying without receiving proper medical attention in hospitals, whether in the public or private sectors.

The ASHA and Anganwadi workers constitute the mainstay of the government's fight against the pandemic. It is reported that 800-900 such warriors have been infected while conducting door to door surveillance and managing quarantine centres. School teachers, policemen, journalists and all those working as frontline warriors are getting infected and some are even succumbing to the infection.

Four major hospitals of the state, i.e. AIIMS, BBSR, VIMSAR in Burla, MKCG Medical college and Regional Cancer centre at Cuttack and Bhubaneswar capital hospital shut down their OPDs as more than 200 doctors, nurses and patients tested positive for coronavirus. Many private nursing homes have been shut down for the same reason. In these hospitals, standard operating procedure for treating patients is not followed and the doctors and other medical staff are not provided with high quality PPE kits. This is creating an atmosphere of fear and uncertainty. With a doctor patient ratio of 1: 733 and OPDs shut, the situation keeps everyone in a panicky state.

Odisha has made wearing of masks and social distancing mandatory, which is not diligently practised by people despite several messages from the government and celebrities through social media and awareness programme like "mun bi Covid yodhha". Unless people understand the gravity of the situation and stay careful, it will be difficult to win the war over the tiny invisible enemy.

It appears, so far the management of COVID-19 has been bureaucracy driven

with less involvement of politicians and members of panchayatiraj institutions. Though the government has given the Sarpanchs the power of a collector with a view to manage the migrant issues, their work is often interfered with making them less effective in the field. However, their role in motivating people to follow the COVID-19 guidelines is important in the face of 30 per cent of confirmed cases among the locals.

Now, as the state has started plasma treatment and human testing of vaccine, a ray of hope has appeared on the horizon. However, to combat the menace, sincere participation of all the stakeholders like government officials, political leaders, and civic societies is highly necessary. Above all, it is imperative that the state government increases the manpower in the health sector and have a broad-based improved health infrastructure. With a poor record on health spending it is not possible to face emergency health issues like a pandemic. Hence, it is suggested that the state should increase the share of health expenditure to about 4 per cent of its GSDP. This enhanced budgetary allocation would strengthen the public health system in the state.

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E-Vidya Programme in KBK Districts of Odisha: Commitment or Reaction

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Abstract

Education has been ascribed as the basic right in the process of nurturing human minds and building human capital. In 2009, India introduced 'Right of Children to Free and Compulsory Education (RTE) Act', but the COVID-19 pandemic poses altogether a unique challenge for the education sector wherein the ingrained socio-economic impediments stand as stumbling blocks. COVID-19 has deepened the crisis further for those who have already been reeling under abject poverty and social stigmatisation. In the state of Odisha, only 5 per cent of students have a computer with internet connection at home, whereas in rural areas, it is 2 per cent. Over 90 per cent of enrolled students do not have resources and are constrained from online education. The individuals do not have sufficient amenities like mobile phones, laptops, internet connection and a television set at home and also lack electricity facility in the KBK districts of Odisha. People from rural areas lag more behind urban areas in terms of access to these amenities. Not having basic facilities for online education is an indication of failure of E-Vidya programme in the KBK districts of Odisha. The districts of KBK suffered and lagged behind even in the pre-pandemic situation. Both the central and state governments have not organised the requisite infrastructure in these districts. Hence, we try to address the nature, purview and limitations involved in the implementation of 'online education' programmes in the KBK region. It is observed that the governments must be more active in undertaking

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timely steps and chalk out an exclusive plan of action for these backward districts and empower the education sector during the pandemic.

Keywords: education, online education, Aatma Nirbhar Bharat, COVID-19, marginalised sections-SC-ST.

1.1 Introduction

Education is a basic human right that further leads to the formation of human capital. If the disadvantaged groups are empowered and equipped with human capital formation, it can reduce poverty apart from deprivation. Education stimulates economic growth and creates the building blocks for inclusive institutions (World Development Report, 2018). In 2000, 189 nations have promised to reduce poverty and deprivation. This promise was reflected in the eight 'Millennium Development Goals (MDGs)'¹. India was a signatory to this declaration.

Millennium Development Goals were replaced by the 'Sustainable Development Goals (SDGs)'² protect the people from poverty and ensure peace and prosperity by 2030. The fourth goal of SDG is to ensure inclusive, equitable and quality education, and thereby facilitate perpetual learning opportunities for all³. India has made significant progress in universalizing primary education. Enrolment rates of girls in primary schools have also improved (Annual Status of Education Report [ASER],2018). However, people belonging to certain lower castes are subjected to social stigma and economic backwardness. These sections have been historically disadvantaged and remain isolated from the mainstream society. Hence, the Constitution of India entitles them to certain provisions enshrined in articles 341 and 342. They consist of a list of castes and tribes referred to as Scheduled Caste (SC) and Scheduled Tribes (ST) (Boorah, Dubey, & Iyer, 2007).

This paper deals with the educational status of Odisha, which has a literacy

¹ Millennium Development Goals <https://www.in.undp.org/content/india/en/home/post-2015/mdgoverview.html>

² Background of the Sustainable Development Goals <https://www.in.undp.org/content/india/en/home/sustainable-development-goals/background/>

³ Sustainable Development Goals <https://www.in.undp.org/content/india/en/home/sustainable-development-goals.html>

rate of 72.9 per cent, which is less than the national average of 74.04.⁴ There has been a relatively high population of SC & STs in Odisha compared to other states in India except the north-eastern states.⁵ The KBK (Kalahandi-Balangir-Koraput) districts of Odisha have high population of SCs and STs, whereas the non-KBK districts of Mayurbhanj, Gajapati, Kandhamal and Sundargarh are highly tribal-dominated areas. The paper tries to discuss and analyse the factors behind relatively low literacy rates⁶ and educational attainment⁷ in KBK districts.

1.2 COVID-19 and Education

COVID-19 pandemic is a massive health crisis that has brought down the entire world on to its knees. Countries have decided to impose strict lockdowns and consequently suspended classes in schools, colleges and universities. India too followed the same and has come up with a supplementary plan of imparting online education. All the teachers are directed to engage in online classes. On May 12, 2020, the Prime Minister of India has announced a policy initiative called '*Aatma Nirbhar Bharat Abhiyaan (ANBA)*'. The sole objective of the programme is to make the nation self-reliant and enable people to tackle the pandemic. ANBA has five phases and in Phase-V, online education during COVID-19 has been discussed, which will take place through Swayam Prabha, DTH channels and 'Digital Infrastructure for School Education' (DIKSHA) platforms.

The government has made education a fundamental right of every child by

⁴ National average (74.04 per cent). The best performing states with respect to the literacy rate are Kerala (94.0 per cent), Mizoram (91.3 per cent), Goa (88.7 per cent), Tripura (87.2 per cent), Himachal Pradesh (82.3 per cent), Maharashtra (82.3 per cent), Sikkim (81.4 per cent), Tamil Nadu (80.1 per cent), which stand above 80 per cent of literacy.

⁵ Scheduled Castes (17.13 per cent) & Scheduled Tribes (22.85 per cent) as per the Census of India, 2011

⁶ Literacy rate is the ability to identify, understand, interpret, create, communicate and compute using printed and written materials associated with varying contexts. Literacy involves a continuum of learning in enabling individuals to achieve his or her goals, develop his or her knowledge and potential, and participate fully in community and wider society (UNESCO, 2005)

⁷ "Educational attainment is the highest grade completed within the most advanced level attended in the educational system of the country where the education was received" (Organization for Economic Cooperation and Development (OECD) Glossary Statistical term. <https://stats.oecd.org/glossary/detail.asp?ID=742>)

introducing 'Right of children to free and compulsory education (RTE) Act' in 2009, which entails free and compulsory education to children in the age group of 6 to 14 years. COVID-19 pandemic poses altogether a unique challenge for the education sector wherein the ingrained socio-economic impediments stand as stumbling blocks for online education. The social and economic position of these deprived communities was no different even before the COVID-19 pandemic. It has damaged the livelihood prospects of those who have been vulnerable to economic and social inequalities. They still remain marginalised and discriminated in the society (Kantamneni, 2020). COVID-19 has only deepened the crisis for which intervention of state and central governments is the need of the hour. The status of education in these districts was already low even before the pandemic.

The paper also attempts to evaluate the population distribution of rural and urban areas in KBK districts. The objective of the paper is to examine the literacy rate and educational attainment in KBK districts and exclusive distribution among marginalised sections. Further, the paper examines the extent of access to resources by these sections towards online education to become self-reliant, i.e., ANBA in the KBK districts of Odisha. Finally, it attempts to suggest ways and means to tackle the situation during COVID-19.

1.3 Education among the Marginalised Sections: the Pre-pandemic Situation

In India, education, religion and caste are inter-linked (Borooah, et.al, 2005). There is an inter linkage among the elements like lack of education, deprivation and poverty, low income levels, caste and gender divides in the society (Kaul, 2001). Education is one of the important investments that help in mitigating poverty and reduce income inequalities. Poverty, social and economic factors determine the demand for education. Primary, secondary and higher education are inter-dependent and equally contribute towards reducing poverty, inequalities and bring in economic development (Tilak, 2006). People belonging to SC, ST and Muslim communities lag behind OBC as well as other sections of society in terms of 'mean years of schooling and educational equality. There also exists rural-urban gap, which is due to low participation of rural females (Varughese & Bairagya, 2020; Agrawal, 2014). Though there have been affirmative action programmes, to bridge the disparities among the social groups, educational disparities still persist. The impact of social categorization is huge which even affects the enrolment and educational attainment. The place of residence, i.e.

urban and rural, lower economic status, housing and social capital⁸ are also the few factors which contribute to the lower educational achievement among the social groups (Desai, Adams; & Dubey, 2012; Despande, 2017). Due to poverty, STs cannot afford basic household amenities (Bailey, 1960) and lag behind in terms of education, health care, employment, social development and access to basic household amenities (Baiju, 2011). The widespread poverty, poor living conditions and high level illiteracy have only made their conditions more vulnerable (Paltasingh and Paliwal, 2014).

1.4 KBK: Pre-pandemic Situation

Odisha has a high level of regional and social-educational disparity. The state has a backward region namely 'KBK' districts, which still continue to have high levels of malnutrition (Report on State of Food Security and Nutrition in Odisha, 2020). Among the eight KBK districts, five are located in the southern region of the state, i.e. Koraput, Malkangiri, Rayagda, Kalahandi and Nabarangpur districts (Census of India, 2011). The incidence of poverty in the northern and southern regions is high among the SC & STs. The rural poverty ratio in the coastal region of Odisha has significantly decreased; whereas in the southern region it has increased, while in northern region it has decreased to lesser extent during the period from 1983-1984 and 1999-2000 (Odisha Human Development Report, 2004).

A survey was conducted by the 'US-India Policy Institute' and the New Delhi based 'Centre for Research and Debates in Development Policy' in all the districts of India, i.e. 640 districts in 2014-15. The study found there are fifty most backward districts in India. Among them, eight are from Odisha, of which four belong to KBK region and other four are non-KBK districts. The rankwise division of KBK districts is Subarnapur- 441, Rayagada- 465, Balangir-531, Koraput- 541, Kalahandi-548, Nabarangpur- 575, Malkangiri-588, Nuapada-589 (Shariff, 2017). In the annual 'Board of Secondary Education (BSE)' matric examination-2020, district of Nuapada has registered the lowest pass percentage i.e., 60.18 per cent (in Odisha board class 10 exams, 78.76% students passed, in 2020). Percentage of children aged 6-14 years who are not enrolled into school among different districts are Koraput - 7.4 per cent, Malkangiri 7.1 per cent, Nabarangpur - 5.7 per cent, Rayagada - 7.8 per cent, Nuapada-2 per cent, Kalahandi - 1.5 (ASER, 2018).

⁸ Social capital is "the interpersonal relationships of a person, as well as the resources embedded in those relationships." (McFadyen & Cannella Jr, 2004, p.735)

1.5 Online Education during COVID-19

According to 'United Nations Educational, Scientific and Cultural Organization' (UNESCO), 1.2 billion children worldwide are adversely affected by closure of schools. This extends to 72 per cent of the student population in the world, while India comprises 320 million students. In India, due to lockdown, millions of students from government schools and colleges hailing from rural areas will have limited access to online education. The UNESCO report says that about 40 per cent of low and lower-middle-income countries have not supported learners, thereby leading to a risk of exclusion during this pandemic. At this juncture, platforms left to poor countries for online classes are either radio or television. About 55 per cent of low income, 73 per cent of low-middle income and 93 per cent of upper-middle income countries have adopted online education, which is an imperfect substitute for classroom instruction (Corona Virus lockdown| COVID-19 has widened the educational divide: UNESCO report, 2020).

The Government of India too has adopted and promoted various digital platforms for online teaching like Google meet, Google classroom, Zoom and WebEx, Online radio, Terrestrial radio channels, Television channels, DIKSHA, National Repository of Open Educational Resources (NROER), Study Webs of Active Learning for Young Aspiring Minds (SWAYAM), SWAYAM Prabha, You Tube, Facebook streaming, Skype, Telegram and WhatsApp. However, there exists a digital divide⁹ due to lack of internet connectivity in the rural and remote areas, especially among the underprivileged groups of the society (Konnikal,2020; Mishra, Gupta & Shree, 2020). According to 'Household Social Consumption on Education in India' report, based on 'National Sample Survey 2017-18', less than 15 per cent of rural households have access to internet as opposed to 42 per cent of urban households. Out of 13 per cent people in the rural areas, only 8.5 per cent of females can operate the internet (Sudevan, 2020).

A survey by Oxfam India across five Indian states found that during lockdown, 80 per cent of students in government schools have neither received education nor received books for the next academic year. Of the 20 per cent government

⁹ Digital divide "commonly refers to the gap between those who do and those who do not have access to new forms of information technology. Most of these forms are computers and their networks but other digital equipment such as mobile telephony and digital television are not ruled out by some users of the term" (Van Dijik, 2006, p.221-22).

school students who received online education, around 75 per cent were dependent on WhatsApp, 38 per cent on telephone calls with the teachers. About 80 per cent of teachers did not receive any training to teach through online sources. Two out of five government school teachers did not have the required assets to engage in online classes (Vyas, 2020). There exists a digital divide in terms of gender, proficiency in English, technical skills, nature and quality of school education, age structures, rural-urban gaps, caste and class implications.

ST households continue to live with extremely low levels of education. Lower castes have high probability of getting excluded from the digital economy and even online education due to the sheer economic and social deprivation. Among SCs and STs, there are few individuals who are literate and who can communicate in English. Lower castes lack ownership of 'Information and Communication Technology (ICT)' assets and have low chances to adopt digital skills as they are not endowed with social capital. A mere digital access without digital skills may not bring improvement in livelihood opportunities. The digital inequality prevents the marginalised benefiting from the digital opportunities (Tewathia, Kamath & Ilavarasan, 2020)

1.6 Empirical Evidence

A student from an economically weaker section, studying in class X, committed suicide in the state of Assam, as he did not have a smart phone (Basumatary, 2020). Shibani Kumari, a 10th standard student from the state of West Bengal also committed suicide as she was unable to attend online classes and was scared of failing in exams (10th standard student succumbs to digital divide in Bengal, 2020). A Dalit girl from the state of Kerala Devika, studying in 9th standard, committed suicide after failing to attend online classes (Philip, 2020). Vikrapandi, a class 11 student from Then district in Tamil Nadu also committed suicide due to inability to understand online lessons. Khusi, a 12-year-old girl from Gujarat committed suicide on being frustrated with online classes. A class 9 student from Kerala set herself on fire as she missed online classes. A student from Padhukottai district in Tamil Nadu committed suicide as she did not receive her 'NEET¹⁰ entrance exam hall ticket' (Nath,2020).

¹⁰ National Eligibility cum Entrance Test, conducted by Government of India, towards entry into medical courses

1.7 Online Education in Odisha during COVID-19

We endeavour to understand the approaches of the Government of Odisha in general and KBK districts in particular with regard to online education. The government has planned to adopt online education for class 10 students of government schools. Government-run schools were lacking infrastructure due to which online education could not be undertaken while private institutions have already started imparting online education in the state. Those students having desktop or laptop with internet facilities were advised to download the DIKSHA app for online education (Odisha to start online education for class 10th students of government schools, 2020).

In Odisha, more than 70 per cent of rural children studying in government elementary schools do not have smart phones or laptops and 20 per cent, i.e. 11,000 villages do not have mobile connectivity. According to a report by 'School and Mass Education Department', at least 80 per cent of parents in Malkangiri, Nabarangpur and Rayagada districts do not have smart phones (Pujari, 2020). The school teachers and students have to climb the rooftop of their homes for a better mobile connectivity so as to attend the online classes. Only 10 per cent of the students in Malkangiri district can access online classes under *e-suvidya* mission due to lack of network and smart phones. There are 76 Bharat Sanchar Nigam Limited (BSNL) towers, 110 Jio towers and 76 Airtel towers across the Malkangiri district but the network is inconsistent, which adversely affects the online education. In the district of Koraput, only 27 per cent of students are estimated to have access to online classes. About 51 panchayats¹¹ in Koraput and 69 in Rayagada district do not have internet access. In the district of Kalahandi, only 2,946 out of 13,889 students are equipped with online sources.

Students cannot download various files due to access to only 2G network connectivity. Most of them do not have access to smart phones and network connectivity. The poor tribal families are the worst affected as they cannot afford expensive smart phones with features like WhatsApp and video calling (Sahu, 2020). The students climb trees and scale hills to attend online classes. In Dudhari village of Semiliguda block of Koraput district, Taba Nayak, a IX

¹¹ Panchayats means an institution of rural local self-government, constituted under article 243B. It has been formed in all the states to build democracy in the grass root level and bring in rural development.

standard student walks about 2 km into the hills to find mobile connectivity. Students from Pottangi, Narayanpatna, Bandhugaon and Semiliguda blocks also do the same due to poor mobile connectivity. To attend online classes, under “Sikshya Sanjog” program, the students walk up to the hills and also perch atop trees.

There are 1,66,494 students in the Koraput district, of which only 21 per cent of the school students are able to attend classes under Sikshya Sanjog Programme (Choudhury, 2020). In Kandhkhilum village of Sadar block of Rayagada district, students climb mountains in groups and walk miles to get internet connection. Students from nearby villages also face similar hindrances. The main issue is lack of internet connectivity in most of the villages (Mohanty, 2020; Poor network: Odisha students scale mountain for online classes, 2020). In Khairaput block of Malkangiri district, there has been no electricity as the power transformer got burnt and has not been repaired since the last seven months.

As per the decision of the government with regard to online education, parents borrowed money and purchased smart phones for their children, but sadly there has been no electricity. They cannot even recharge their smart phones and sometimes need to go around 3km and charge their phone from nearby households, which is not possible everytime (Malkangiri: students facing many problems in online studies due to no electricity from last seven months, 2020). Five girl students from Bonda Ghati belong to Dumiripada village of Khairaput block of Malkangiri district, climb around 4 km to the hills on a daily basis to attend online classes. They do not have smart phones and they borrow from their relatives and study. They struggle both for the mobile connectivity and smart phones (Malkangiri: students scale mountain for online classes”, 2020). About 210 children from Ratakhandi UGH school belong to Ratakhandi panchayat of Balangir district are unable to access online classes due to lack of smart phones or laptops. 90 per cent of poor families from ST Community cannot follow government’s online initiatives. These families are extremely poor that they even struggle for minimum earnings to meet dietary requirements; online classes would be a dream for them (Poor children unable to study online without laptops or smart phones, 2020). In Kalahandi district, located in western Odisha, ST population is recognised as the most backward in the country. People over here even struggle to have two square meals a day. In Thuamul-Rampur block, government has started education using digital devices but the question is, when people even struggle for their basic needs, how can we expect them to imagine online education? There are 2411 schools,

out of which, 2275 schools are connected with online education. Totally, 24,149 WhatsApp groups are created to impart online education, but only 22 per cent students have smart phones and only 27.83 per cent students can join online class (No networks and gadgets for online education in Kalahandi, 2020).

1.8 Data and Methods

The present study is based on secondary data and a positivist approach has been followed. The study overviews the demography, educational status and basic amenities required for online classes in KBK districts. Data has been obtained from the *District Census Handbook*, 2011 of KBK districts of Odisha, Socio Economic Caste Census-2011, Annual Status of Education Report (ASER) - 2018, Telecom Regulatory Authority of India (TRAI), 2019 and 2020.

Literacy rate and educational attainment of Odisha and KBK districts have been adopted to observe the educational status.

$$\text{Literacy Rate} = \frac{\text{Total number of literates}}{\text{Total population}} \times 100$$

For educational attainment, the population is divided into seven levels of education, i.e. illiterates (no schooling), literates but below primary (literates), primary (class one to five), upper primary (class six to eight), secondary education (class nine to ten), higher secondary (class eleven to twelve), graduation and post-graduation. 'Average years of schooling'¹² has been used to calculate the educational attainment. Number of years of schooling for illiterates is 0, literates but below primary is 2 years, primary is 5 years, middle is 8 years, secondary is 10 years, higher secondary is 12 years and graduation & post-graduation is 17 years.

$$\text{Average Years of Schooling} = \sum \text{YR } j \cdot \text{HS}_j$$

where j is the schooling level, $\text{YR } j$ is the number of years of schooling represented by level j HS_j is the fraction of the population for which the J^{th} level is the highest value attained (Barro & Lee, 1993).

¹² "Average years of schooling is the number of years of education of a country's population aged 25 years and older, excluding years spent repeating individual grades." (UNESCO glossary term.uis.unesco.org/en/glossary-term/mean-years-schooling)

1.9 Results and Discussion

This section overviews the spatial distribution of demography in KBK districts, educational status and the basic amenities available for online education.

Table 1: Demographic Distribution of KBK Districts and Odisha

	% of Total State Population	% of Total Population (Rural)	% of Total Population (Urban)
Koraput	3.29	3.30	3.23
Malkangiri	1.46	1.61	0.71
Rayagada	2.30	2.34	2.10
Nabarangpur	2.91	3.24	1.25
Nuapada	1.45	1.64	0.49
Kalahandi	3.76	4.16	1.74
Subarnapur	1.45	1.60	0.71
Balangir	3.93	4.15	2.81

Source: Census of India, 2011

Table 1 presents the population proportion of each district with respect to the state population. The districts of Balangir, Kalahandi and Koraput show relatively higher population. In KBK districts, population residing in rural areas is higher than the urban areas. The high population in the rural areas of KBK districts is an indication of rural-urban gap. This could be due to lack of employment opportunities in nearby urban agglomerations.

Table 2 shows both the rural and urban percentage of SC & ST population. In terms of rural population, Malkangiri -83 per cent, Rayagada - 78 per cent, Nabarangpur - 73 per cent, Koraput -71 per cent, Kalahandi- 48 per cent, Nuapada- 48 per cent, Balangir - 41 per cent and Subarnapur - 35.45 per cent of the population belong to SC & ST.

Table 2: Percentage of Scheduled Castes and Scheduled Tribes

Districts	%of SC Population			%of ST Population		
	Total	Rural	Urban	Total	Rural	Urban
Kalahandi	18.17	18.21	17.21	28.5	30.3	7.12
Balangir	17.88	18.13	16.04	21.05	23.06	6.33
Koraput	14.25	13.93	15.85	50.56	57.45	15.45
Rayagada	14.41	14.21	15.55	55.99	63.61	13.4
Nabarangpur	14.53	13.91	22.49	55.79	58.95	14.97
Malkangiri	22.55	21.79	31.29	57.83	61.47	16.45
Nuapada	13.46	13.07	20.01	33.8	35.42	6.48
Subarnapur	25.6	25.59	25.71	9.37	9.86	3.88

2.0 Overview of Educational Status in KBK Districts: Pre-pandemic Situation.

Table 3 shows the literacy rate of KBK districts. Among the 30 districts of Odisha, KBK districts show the least literacy rate in the state. It could be because of the district's backwardness, lack of infrastructure, unavailability of teachers and regional imbalances. Only Subarnapur and Balangir districts show slightly better literacy rates.

Table 3: Literacy Rate in KBK Districts

	Literacy rate (in per cent)	Rank
Odisha	72.9	
Nabarangpur	46.43	30
Malkangiri	48.54	29
Koraput	49.21	28
Rayagada	49.76	27
Nuapada	57.35	25
Kalahandi	59.22	24
Balangir	64.72	21
Subarnapur	74.42	15

Source: Census of India, 2011.

There is a wide gap in rural and urban education of KBK districts, which is due to better educational facilities in urban areas. Among the SCs & STs, literacy rate in KBK districts is relatively low when compared to the state literacy in both the rural and urban areas. This is because of two factors; one is high-level of poverty and illiteracy among the SCs & STs. Second is the wide gap in rural and urban education among the SCs & STs. It could be because vulnerable sections stay in the remote areas. The literacy rate of SCs is comparatively better than STs. Rural literacy rate among the STs is observed to be worst in Malkangiri, Rayagada, Nabarangpur and Koraput at 30 per cent.

2.1 Educational Attainment

In table 4, the districts of Koraput, Rayagada, Nabarangpur and Malkangiri register high percentage of illiterates i.e., 60 per cent. The average years of schooling of Malkangiri and Koraput districts is 1 year, while Kalahandi, Rayagada and Nabarangpur together maintain 2 years; Balangir and Nuapada maintain three years. Only Subarnapur district maintains 4.71 years, which is slightly higher than Odisha's¹³ rural educational attainment of 4.45 years.

Table 4: Rural Educational Attainment in KBK Districts of Odisha.

Rural	% of Illiterates	% of Literates but Below Primary	% of Primary	% of Upper Primary	% of Secondary	% of Higher Secondary	% of Graduate and Post Graduate	Average Years of Schooling
Odisha	34.91	13.75	19.60	15.69	9.02	3.63	2.79	4.45
Kalahandi	51.09	13.99	14.53	10.79	5.71	2.29	1.28	2.92
Balangir	44.24	14.55	17.62	12.93	6.29	2.65	1.50	3.54
Koraput	64.46	12.72	11.52	5.78	3.08	1.36	0.80	1.9
Rayagada	66.19	9.29	10.20	7.00	4.10	1.77	1.07	2.05
Nabarangpur	64.36	9.96	12.95	7.55	3.39	1.12	0.57	2.01
Malkangiri	67.82	9.97	10.59	2.79	2.79	1.15	0.58	1.83
Nuapada	49.49	10.01	17.39	10.77	7.64	2.80	1.30	3.26
Subarnapur	27.84	14.30	23.17	17.19	10.60	4.00	2.36	4.71

Source: Socio Economic Caste Census, 2011.

Table 5 indicates the urban educational attainment of KBK districts of Odisha. All the urban areas of KBK districts show less illiteracy as compared to the rural areas. The average years of schooling is lowest in Malkangiri i.e., 4.78 years followed by Rayagada and Kalahandi. The districts of Nuapada,

Subarnapur, Nabarangpur, Koraput and Balangir show around 6 years of average schooling, which is less than Odisha's urban educational attainment.

Table 5: Urban Educational Attainment of KBK Districts of Odisha

Urban	% of Illiterates	% of Literates but Below primary	% of Primary	% of Middle	% of Secondary	% of Higher Secondary	% of Graduate or Higher	Average Years of Schooling
Odisha	17.43	8.71	16.54	17.67	14.52	9.15	12.21	7.09
Kalahandi	26.77	11.17	15.42	16.84	11.45	7.31	8.91	5.8
Balangir	23.40	9.51	16.08	16.70	11.84	8.54	11.91	6.68
Koraput	22.93	8.06	15.06	17.36	13.56	8.89	10.46	6.45
Rayagada	31.17	7.76	12.91	15.71	12.60	7.12	9.35	5.76
Nabarangpur	25.77	7.74	17.70	19.71	11.54	7.01	8.65	6.23
Malkangiri	31.51	14.18	15.01	16.57	9.37	5.67	6.44	4.78
Nuapada	24.76	6.34	19.25	21.19	13.52	6.68	6.35	6.01
Subarnapur	20.54	11.11	18.99	18.75	11.86	6.58	7.81	6.09

Source: Socio Economic Caste Census, 2011.

2.2 Overview of Basic Amenities Available for Online Education

Table 6 shows that only 9 per cent of the households have both computer and access to internet. In urban areas, the proportion is 21 per cent, while in rural areas, it is 4 per cent. Only 9 per cent of students have a computer at home with internet connection and over 90 per cent of students do not have resources, and thereby constrained from access to online education. Among the socio economic groups, only 4 per cent of SCs & STs, and 7 per cent other backward classes (OBC) have a computer with internet connection. Only 5 per cent of students in Odisha have access to computers with internet connection, whereas in rural areas, it is just 2 per cent.

¹³ For example, Odisha's rural average years of schooling is measured as
 $= 34.91*0 + 13.75*2 + 19.60*5 + 15.69*8 + 9.02*10 + 3.63*12 + 2.79*17$
 $= 0.35*0 + 0.14*2 + 0.20*5 + 0.16*8 + 0.09*10 + 0.04*12 + 0.03*17$

Table 6: Percentage of Students with Basic Amenities, i.e. Computer with Internet (CI), Computer(C), Internet (I)

		Total			Urban			Rural		
		CI	C	I	CI	C	I	CI	C	I
Country	All India	9	11	25	21	24	44	4	5	17
Social Group	SC	4	5	17	-	-	-	-	-	-
	ST	4	5	13	-	-	-	-	-	-
	OBC	7	9	23	-	-	-	-	-	-
	Others	21	23	45	-	-	-	-	-	-
State	Odisha	4	5	10	15	18	28	1	2	7

Source: Jose et al., 2020.

Odisha's subscriber base has witnessed a growth from 33.23 to 33.54 million (Table 7). By the end of every quarter, there is an increase in the growth of subscriber base, i.e. from 32.93 to 32.96, 33.10, 33.23, 33.54 million. There are more than 50 per cent telephone subscribers in rural Odisha and growth has been observed during December 2019 to March 2020, i.e. from 21.73 million to 22.34 million. There has been a decline in urban base during September 2019 to March 2020, i.e. from 11.86 million to 11.20 million, which means people are migrating to rural areas due to lockdown and consequent job losses.

Table 7: Rural- Urban Telephone Subscribers of Odisha (in million)

	Total	Rural	Urban	Rural Subscribers(%)
March 2020	33.54	22.34	11.20	66.61
December 2019	33.23	21.73	11.49	65.41
September 2019	33.10	21.24	11.86	64.17
June 2019	32.96	21.47	11.49	65.14

Source: Telecom Regulatory Authority of India (TRAI), 2019 and 2020.

Table 8 shows that Odisha's urban area has teledensity of 139.24 million while teledensity of rural area is 62.37 million. Growth has been observed in rural teledensity from 60.99 to 62.37 million and a decline can be seen in the urban teledensity from 142.36 to 139.24 million, indicating people's reverse migration. Wireless teledensity in urban area is 137.14 million and 62.25 million in rural

area. Growth has been found in the rural wireless teledensity from September 2019 to March 2020, i.e., from 59.54 to 62.25 million and a decline has been registered in urban wireless teledensity from September 2019 to March 2020, i.e., from 145.31 to 137.14 million teledensity. Due to lockdown, many people moved to their own places, which resulted in a decline in urban teledensity and increase in rural teledensity. Wire line teledensity in urban area is 2.10 million, while in rural area it is 0.11 million.

Table 8: Rural-Urban Teledensity of Odisha (in million)

	Teledensity			Wireless Teledensity			Wireline Teledensity		
	Rural	Urban	Total	Rural	Urban	Total	Rural	Urban	Total
March 31, 2020	62.37	139.24	76.46	62.25	137.14	75.98	0.11	2.10	0.48
December 31, 2019	60.99	142.36	76.02	60.87	140.22	75.53	0.12	2.14	0.49
September 30, 2019	59.67	147.55	75.86	59.54	145.31	75.34	0.13	2.24	0.52
June 30, 2019	60.39	143.60	75.68	60.26	141.36	75.16	0.13	2.24	0.52
March 31, 2019	60.27	144.73	75.74	60.13	142.39	75.20	0.14	2.34	0.54

Source: Telecom Regulatory Authority of India (TRAI), 2019 and 2020

Table 9 shows the access to various amenities i.e. electricity, television, computer and internet connection in KBK districts. From the table, it is clear that the rural areas are less electrified when compared to urban areas. Odisha has 26.72 per cent of households having a television set, while rural is with 19.37 per cent and urban area with 66.19 per cent. In the rural KBK districts, small percentage of households has television as compared to the urban households. The rural areas of Nabarangpur and Koraput districts have less than 10 per cent of households with a television at home. Odisha has 5.8 per cent households having a computer or a laptop. The rural figure is 3.27 per cent and 14.80 per cent for urban households. In the rural KBK districts, small percentage of households has a computer or a laptop as compared to the urban households. The rural households are a mere 5 per cent. Data shows that the high percentage of households have a computer or a laptop without internet. The percentage of households in the rural areas without internet is high.

Table 9: Access to Electricity, Television, Computer and Internet Connection in the KBK Districts.

Districts	Category	Electricity	Television	%Having Computer / Laptop	Computer/Laptop	
					With Internet	Without Internet
Odisha	Total	43.02	26.72	5.8	1.40	3.68
	Rural	35.55	19.37	3.27	0.47	2.80
	Urban	83.10	66.19	14.80	6.40	8.39
Kalahandi	Total	22.52	14.47	3.12	0.48	2.63
	Rural	18.60	10.96	2.62	2.58	2.36
	Urban	75.64	62.05	9.87	3.52	6.35
Nuapada	Total	27.49	13.74	2.64	0.47	2.17
	Rural	24.91	11.58	2.36	0.35	2.02
	Urban	76.31	54.61	7.89	2.89	4.10
Subarnapur	Total	32.82	20.40	2.81	0.46	2.35
	Rural	29.54	17.78	2.48	0.31	2.1
	Urban	72.10	51.78	6.78	2.28	4.50
Balangir	Total	28.57	19.33	4.00	0.76	3.23
	Rural	22.71	14.39	3.14	0.34	2.80
	Urban	79.35	62.10	11.43	4.44	6.99
Malkangiri	Total	17.90	NA	-	-	-
	Rural	13.43	NA	-	-	-
	Urban	68.56	NA	-	-	-
Rayagada	Total	27.24	19.03	4.06	0.69	3.37
	Rural	17.53	10.31	3.06	0.26	2.80
	Urban	81.39	67.67	9.58	3.06	6.51
Nabarangapur	Total	12.63	8.62	2.97	0.48	2.49
	Rural	8.49	5.15	2.43	0.32	2.10
	Urban	64.64	52.09	9.80	2.53	7.27
Koraput	Total	25.36	17.75	5.11	1.18	3.93
	Rural	14.94	8.10	3.36	0.25	3.10
	Urban	79.39	67.74	14.23	5.98	8.25

Source: Census of India, 2011

From Table 10, it is clear that there is more percentage of people who neither have landline nor mobile phones in the rural areas. Subarnapur has 69.48 per cent and Nuapada has 77.20 per cent of population having none. Other districts like Balangir, Kalahandi, Rayagada, Nabarangpur, Koraput and Malkangiri have 80 to 85 per cent of the population having neither landline nor mobile phones. The urban areas of Balangir, Kalahandi, Malkangiri, Nuapada and Subarnapur district have 50 to 60 per cent of households having mobile phones, whereas Koraput has 62.57 per cent, Nabarangpur - 63.79 per cent and Rayagada - 63.03 per cent of households having mobile phones. The percentage of households having none in urban areas is relatively less as compared to rural areas. Kalahandi, Nuapada and Subarnapur have 40 per cent of households who neither have landline nor mobile phones, whereas other districts have less than 40 per cent of households who neither have landline nor mobile phones in urban areas.

Table 10: Ownership of Landline and Mobile Phones in KBK Districts.

Districts	Rural				Urban			
	% of Landline only	% of Mobile only	% of both	% of None	% of Landline only	% of Mobile only	% of Both	% of None
Subarnapur	0.49	29.56	0.47	69.48	0.25	57.83	1.50	40.42
Balangir	0.32	18.97	0.22	80.49	0.41	55.90	5.80	37.89
Nuapada	0.51	22.06	0.23	77.20	1.11	55.29	0.84	42.76
Kalahandi	0.21	18.00	0.17	81.62	0.27	53.63	3.54	42.56
Rayagada	0.35	15.05	0.63	83.72	0.85	63.03	7.05	29.06
Nabarangapur	0.61	17.78	0.42	81.20	0.25	63.79	3.45	32.51
Koraput	0.24	14.22	0.83	84.72	0.49	62.57	8.27	28.67
Malkangiri	0.18	16.93	0.25	82.64	0.15	59.24	1.63	38.97

Source: Socio Economic Caste Census Data, 2011.

(Both - landline and mobile, None - neither landline nor mobile)

2.3 Conclusion and Suggestions

The pre-pandemic performance of KBK districts was also disappointing when compared with state's literacy and educational attainment. Among the SC & ST, the STs performed the worst, especially in the rural areas. The high population proportion in the rural areas and presence of high percentage of SC

& ST necessitates immediate and comprehensive policy intervention. People do not have sufficient amenities like mobile phones, laptops, internet connection and television sets at home. People in KBK districts also have remote connectivity with electricity, especially the rural areas. Rupavat (2016) says that to achieve literacy among the marginalised sections, the state should provide minimum basic facilities if not immediately but gradually. Major dropout from schooling is due to lack of resources in these districts.

There is an observation that the efforts of the Sarva Siksha Abhiyaan, a scheme by the Government of India, which increased school children participation, may go futile due to long time closure of schools. Ekalavya Model Residential schools (EMRS), which provide education for the STs in remote areas, and Kasturba Gandhi Balika Vidyalaya (KGBV) provides secondary education for girls from weaker sections, were introduced to narrow the educational disparities. These policies need to be renovated and rejuvenated so as to get away with more dropout ratios at the earliest. For the financial year 2020-2021, Ministry of Human Resource Development (MHRD), has allotted Rs.59,845 crore to the 'Department of School Education and Literacy', Government of India. The 'Department of Higher Education', Government of India has been allotted Rs. 39, 467 crore. These funds need to be utilised wisely and diligently during such hard times of COVID-19 so as to avoid dropouts, absenteeism, child labour, theft and many other social complications.

Probable Alternatives

The government can make use of loudspeakers wherever large number of students reside. This model was basically used by one of the head masters from the state of Jharkhand, which turned out to be successful (Jharkhand teacher uses loudspeakers for virtual classes in village amidst lockdown, 2020). Small blackboards can be painted on the walls of the houses where students can sit around maintaining the physical distance. The respective teachers can move around and engage classes. This initiative was also taken up successfully by educators in Jharkhand, Dumka's Dumarthar village and they named it as "Siksha Aapke Dwaar" (No Online access, Teachers take class room to kids in Jharkhand village, 2020). Diganta Swaraj foundation deployed loud speakers with pre-recorded lessons, which were carried around by motorcycles across the villages. Exclusive circles were drawn towards the seating arrangement of students so as to ensure physical distance (These Indian teachers found an innovative way to keep pupils learning during coronavirus, 2020).

These innovative ideas can be adopted in the rural and remote areas of KBK districts. The government should provide books and materials to the students so that they can study in their homes. The Government of India aspires to distribute laptops or tablets to 40 per cent of all college and university students. On June 29, 2020, the Union 'Human Resource Development Ministry' has announced to spend Rs.60,000 crore to provide digital devices over the next five years. The Ministry plans to provide electronic devices such as laptops, tablets, computers, mobile phones and television sets by 2025-26 (Jebaraj,2020; Ravi, 2020). This initiative can also be adopted in KBK districts of Odisha.

To make the *E-Vidya programme* successful in KBK districts, the government should distribute free laptops and smart phones to the students. It should also bear the charges incurred towards mobile data packages. Households which do not have a television set should also be provided the same so that they can connect to *Swayam Prabha DTH* channels and DIKSHA platforms. It should also provide training to the teachers to enable them to engage in online education so that they can further help the students as well as parents who do not have any digital skills. People in backward districts like KBK even struggle for two square meals a day. Hence, the government should disburse special funds during such hard times to avoid hunger as well as dropout ratios in the schools. As there are regular disruptions in the supply of electricity, government should ensure uninterrupted power supply so that students who have gadgets can charge them and utilise for educational purpose.

The ANBA, which calls for online education appears to be a huge disappointment to the students of KBK districts of Odisha. Inaccessibility to basic facilities towards online education must be overcome to reap the benefits from E-Vidya Programme in the backward KBK districts of Odisha. The KBK districts suffered and lagged behind other districts even during the pre-pandemic times. During the pandemic, it is apparent that both state and central governments have not come to the rescue of these people.

Therefore, it is difficult for the KBK districts to either stand benefitted or to adopt policies under '*ANBA*' during such hard times of COVID-19. Hence, it is the responsibility of the government to undertake timely steps and chalk out an exclusive plan of action for these backward districts and equip the people to overcome the ill effects of the pandemic.

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 $= 0.35*0 + 0.14*2 + 0.20*5 + 0.16*8 + 0.09*10 + 0.04*12 + 0.03*17 = 0 + 0.28 + 1 + 1.28 + 0.9 + 0.48 + 0.51 = 4.45$ years. The same is used for districtwise calculation of KBK.

Influx of Migrants during COVID-19 and Employment Scenario in Odisha

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Abstract

The present paper tried to focus on the strategies adopted by the Odisha government to absorb the returnee migrants with a backdrop of the current employment scenario. Odisha with its agro-economy presents declining employment opportunities in the agri-allied sector and compulsion of the rural poor to migrate to their destination states as a livelihood strategy. However, the COVID-19 pandemic seized all options and compelled them to return to their native area. The invisible labour force in the castle of urbanisation became visible on the royal paths of the cities. The vulnerable and dispersed migrants without any ray of hope to cope with starvation in the destination state have demanded for necessary arrangements for their return. The migrant crisis forced the planners as well as the government to respond with one step ahead to absorb the workforce within their locality through MGNREGS. However, failure in providing employment to the working age population will lead the society into a critical situation pushing the potential population into an arena of psychological and behavioural problems. Hence, this is the time to renew the rural economy and to shape it according to the demand of the workforce, which needs skill mapping and skill development to fit with the industrial requirement. Further, some suggestions are made to give a new direction to think beyond MGNREGS and strengthen the MSMEs as well as rural entrepreneurship strategies to overcome the challenges of distress migration.

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Keywords: Reverse Migration, COVID-19, Employment, MGNREGS, Livelihood

1. Introduction

The COVID-19 pandemic has debilitated the economic system of the state and the country as a whole, which has forced to lock the economic activity. Due to contagious nature of the coronavirus, there was apprehension that it would infect the whole country in a geometric proportion within few days. Hence, to contain the spread, the government imposed restriction on the mobility of the people and declared shutdown and lockdown in a phased manner. This resulted in the halt of all economic activities around the country by which the worst affected were the migrants. Without job and social security network, they desperately wanted to return to their native villages. The government issued orders to restrict the movement of the migrants and announced special assistance package, viz. Prime Minister's Garib Kalyan Yojana (PMGKY)¹ as a token of assurance for the migrants. However, it had no effect on the panicking migrants and they tried to come back by any possible means, which reminds us of the popular quote by Jean de la Fontaine that "the hungry stomach can't hear". The news about the deadly coronavirus and lack of income also made them hopeless in the destination state. It is worthy to mention here that the Odisha government has taken the bold step to bring back more than 5 lakh migrants to their home state. On the other hand, it has also saturated the labour force in their locality, which is raising employment and livelihood challenges before the state government."The extraordinary and massive inflow of returnee-migrant workers to their native places in the wake of the imposition of lockdown has brought about a major challenge for ensuring their health, safety and means of livelihood" (OEA 2020).

The effect of COVID-19 and the subsequent lockdown on the economy of Odisha is quite devastating. As the economic activities remained suspended, it has hit hard the agricultural economy of the state affecting the rabi crop. At the same time, the long-term lockdown has also seized the major revenue sources of the state. Fall in export market and decline in tax collection also adversely affected the state economy. The government revenue for the FY2020-21 has

¹ PMGKY is a scheme launched by central government in 2016 on the lines of the income declaration scheme, which became an umbrella for different packages declared by the government to address the distress situation arising due to COVID-19.

reduced by 40 per cent of the Rs 1,24,600 crore budget target (*Outlook*, 2020) for which the government is drawing up an austerity plan to meet the requirement. The government has focused on labour intensive works and hiked budgeted amount on MGNREGS to absorb the returnee migrants. Besides, dialogue is also on for revival of agriculture and rural economy with forward and backward linkage to the larger economy, MSME sector, tourism sector, etc. To generate employment and ensure livelihood of the most affected people, a circular has been issued to the department of water resources, rural development, works and forest and environment. However, it is a matter of concern to meet the current demand of the workforce when the state does not have a big source of its own revenue and depends on the fund flow of the central government. This invites an urgent need to discuss about the combating strategy for revival of the Odisha economy for an inclusive growth creating employment opportunities in each village with small workshops and entrepreneurship programme with proper start-up support system. MGNREGA can be viewed as a source for creation of durable assets for sustainable agriculture through provisioning wage employment and reducing distress migration. However, the potentiality of returnee migrants from industrial background should be tapped for a vibrant and dynamic economic revitalization by adopting different approaches. COVID-19 has been devastating in so many ways, but history shows that, with adequate insight and careful choice of policies, societies can overcome even devastating disasters to a great extent (OEA, 2020).

Employment and Migrants of Odisha

Employment is a contextual term which extends from agriculture sector to business and from manufacturing to service sector. Particularly, in an agrarian state like Odisha, employment scenario can be categorised under two broad sectors, i.e. (i) rural employment sector, which centres around the agri-allied activities, small artisans, handlooms, etc. mostly categorised under unorganised sector, and (ii) urban employment sector, which talks about the business, service, etc. mostly of the organised sector. Employment scenario of a state is considered as a development indicator, which has a direct correlation with development of unprivileged and underprivileged sections of the society, concentrated in the rural/tribal economic set-up of Odisha. Hence, during the last few decades, the Odisha government has attempted to reduce the unemployment rate with strategic expansion of industry and production as well as giving emphasis to creation of more potentiality for agriculture through micro and macro irrigation system with a vision of "*Har Khet ko Pani* (water to

all cultivable land)” and bagged the *Krishi Karman* Award. However, due to inadequate infrastructure and production facilities, the state is unable to absorb the skills of its people, which is giving rise to conflicting situation in the employment scenario of Odisha. This has resulted in structural gap while providing employment opportunities to the potential labour force and led to inter-state migration. More specifically, seasonal unemployment or disguised unemployment is rampant in Odisha as engagement of people in the state is mostly in agri-allied sector. Though the agriculture sector is treated as a major employment provider for the people of Odisha as it accounts for 48.76 per cent, due to climatic as well as other factors, it is declining in the past few decades. Chandrashekhar et al (2006) indicated that the declining trend of employment opportunities in agriculture sector is resulting in rural unemployment for the poor, marginal and small farmers approximately for 5 months, which is compelling them to search for alternative livelihood during the lean period. Further, due to inadequate social protection schemes and active labour market policies, more young people are found unemployed or forced to enter the informal sector (Mitra & Verick, 2013). Singh (2018) highlighted that population growth, educated youth employment, labour force participation rate, poverty, and illiteracy are major causes of unemployment in the current market scenario. The report of Odisha Economic Survey 2019-20 has reflected that rates of employment in agriculture sector are falling rapidly because of decline in net sown area, productivity, shrinking in operational size of land holding, etc (Govt. of Odisha ,2020).

According to Odisha Economic Survey 2019-20, the state’s working age population (15-59 years) has increased to 25.8 million in 2011 from 21.5 million in 2001, growing annually at 2 per cent. At the same time, employment indicators from the periodic Labour Force Survey (2017-18) indicate that the labour force participation in the state was 48.3per cent (*The New Indian Express*, 2019a). Besides, declined death rate is also contributing to the unemployment scenario, whereas the poor people of the state are unable to compete with the demand of the modern society in terms of technology, skills and formal education.

It is also well understood that if we cannot provide employment to the working age population, it will lead the society into a critical situation pushing the potential population into the arena of psychological and behavioural problems. Thus, poverty eradication strategy includes employment generation as a major component, whereas an ideal economic development plan of the state

incorporates all its resources where utilisation of human resource plays a pivotal role. As mismatch in trajectory of growth will lead to social unrest, government needs to rethink on its economic priorities (Chandrasekhar, 2004). This is also reflected in the 5-year planning process and investment plan of Odisha. The government with its administrative and fiscal constraints tried to provide employment opportunities to the workforce of the state through MGNREGA and different skill development interventions. However, the statistics of Ministry of Labour and Employment, GoI reveals that job-seekers registered under different employment exchanges and placement opportunities provided to them is a declining trend across the states in India since 2012 (Table 1). The variance between the job seekers and creation of job opportunity by the government questions the current planning approach to address the unemployment crisis because of the unforeseen calamity COVID-19.

Table 1: Employment Status of India

Year	Registration (in '000)	Placement (in '000)
2006	7289.5	177.0
2007	5434.2	263.5
2008	5315.9	305.0
2009	5693.7	261.5
2010	6186.0	505.4
2011	6206.3	471.5
2012	9722.2	427.6
2013	5969.4	348.5
2014	5957.2	338.5
2015	6939.4	395.0
2016*	2773.2	171.8

Source: Annual Report, 2018-19, Ministry of Labour and Employment, GoI

Note: * as on June 30, 2016

Particularly, for rural Odisha, MGNREGA fails to show any fruitful result and it is seen that poor rural people rather prefer to work as daily labourers in other states than to be enrolled under MGNREGA. The data shows that ten out of thousand workers from Odisha are migrating to other states every year (Samantaray, 2016). Vyas (2017) also tried to draw attention to this alarming situation of unemployment by highlighting that around 1.5 million jobs were

lost during January-April 2017. This can pave way to imagine the unemployment scenario in the post-COVID period. According to 2011 census, out of the total working population of Odisha 39 per cent are marginal workers, whereas the 68th NSSO report highlights that the state has rural unemployment rate of 8.7 per cent and urban unemployment rate of 5.8 per cent. At the same pace, unequal development during post-liberalisation period promoted by capitalist approach intensified the economic gap of different areas; rural areas with agrarian economy are laggard in this development race, whereas prosperity is well marked in urban areas. This motivated people from rural areas to migrate to urban or industrial areas in search of better livelihood options. Hence migration is nothing but movement of aspired people from their native area to other areas in search of employment and exploration of better scope of life. In this context, Odisha is always treated as a hub of migrant population. Usually, the migrants of Odisha are found to be engaged in non-skilled or semi-skilled jobs under the informal sector in other states of India in an insecure environment.

Migrants of Odisha and COVID-19

Usually, people migrate for their economic stability and enhancement of social status, whereas hierarchy in caste system, social set-up and previous instances determine its pattern. Odisha, which is identified as one of the poorest states of India, focuses on agro-economy. According to the Niti Aayog SDG India Index Baseline Report, Odisha has 32.59 per cent BPL against the national average of 21.92 per cent (*The New Indian Express*, 2019b). Most of its people have small or fragmented lands, which are unsuitable for application of modern technology, and unable to engage them throughout the year, thus creating seasonal unemployment. At the same time, non-availability of employment round the year in non-farm activities in the village or in its periphery leads them to access the outer world through their existing social network. Hence, migrants of Odisha are mostly seasonal as they migrate to urban or industrial areas in search of alternative livelihood during a lean period. Particularly, KBK² districts of Odisha are well known for seasonal/temporary migration, which is traced back to the 1960s drought. In the present scenario, thousands of people from across Odisha are migrating every year, most preferably to the southern states. The lockdown imposed by the central government as an emergency to address the pandemic (COVID-19) without any prior consultation with the

² The undivided Kalahandi, Bolangir and Koraput districts of Odisha are known as KBK districts.

state government and other stakeholders has a greater impact on the bulk of the migrant work force, which is mostly in the informal sector. It has created an unprecedented humanitarian crisis. The COVID-19 pandemic has destroyed their entitlements in the destination states. Pausing economic activities in different worksites like hotels, tourist places, factories, construction sites, enterprises, brick kilns, etc has adversely impacted the migrants. They were in battle with a life and death situation due to loss of livelihoods. They wanted to return to their homeland for the sake of safety and wellbeing as well as health concerns. Sudden loss in employment and income threatened their access to food and non-food essential items, rented accommodation and shelter (Srivastava 2020). The destination states treated them as strange workers/ outsiders and did not bother about their hunger and health safety. Without a safety network at their work places, the migrants faced with a different set of challenges started moving back to their native place. However, the path of their homeward journey was not so easy for them. The desperate moment and non-availability of transport resulted in a huge number of migrants walking on the roads and railway tracks. In contrast, the initiatives taken by the government through PMGKY by keeping them in camps has led to depression in the workers. Further, the request of the central government to employers for paying wages of the migrants and waiving house rents by owners went unheeded. Rather, cases about the torture and non-payment of wages were reported. There was no check and balance system to look into the issues of the poor migrants. On the other hand, extension of the lockdown period frightened the migrants and made them hostile.

The media coverage on hunger and distress as well as death cases of migrants compelled the state government to take immediate steps to make arrangements for their return. When the issue of migrants became a burning issue during the 1st and 2nd phases of the lockdown, it was felt that there was no tracking system to gauge the number of out-migrants. It was accessed industry-wise that there were 40 million short-term migrant workers (Srivastava, 2020), whereas the government had no records about them, due to which the backbone of the informal economy was threatened by the COVID-19 pandemic. It forced all the stakeholders to extend their support, whereas starvation of migrants pointed towards the inefficacy of the protective labour law.

When arrangements were made for the return of the migrants, opposition was noticed from different quarters in the fear of spread of corona virus as there was no concrete information about the virus except its deadliness. They faced

resistance in entering the village boundaries. Their own people looked at them differently and welcomed them with a bitter expression. Hence, the returnee migrants became people of no land. On the other hand, the rapid rising trend of COVID-19 cases are also observed after arrival of migrants, which establishes direct relationship of rising COVID-19 cases with migrants (Meher and Nanda, 2020). This also affected the economic progress and resurgence of the state while questioning the job assurance for the migrants.

Initiatives by the Government

The distressed migrants started demanding for state government's intervention and support. Free kitchens were arranged in the destination states during 2nd phase lockdown with a mutual dialogue between state governments. However, a study shows that it did not reach to all as desired (SWAN 2020). Subsequently, the state government launched a web portal for registration of migrants to estimate how many of them were interested in coming back to their native place. Special *Shramik* trains and buses were arranged in consultation with the destination states. Vande Bharat Mission was also initiated as an interim arrangement for return of migrants. It was found from the frequent press releases of the state government to address the emergencies of the COVID-19 pandemic that the Odisha government also took steps for the return journey of the workers to their homeland. In the process, more than five lakh migrants returned to their native area. To ensure their health check-up and contain spread of coronavirus, quarantine camps and temporary medical centres (TMCs) were established. Provisions were made to keep the returnee migrants under 14 days observation in these centres and seven days in home isolation. During the stay in quarantine centres, they were provided with food and other logistics. Though for smooth management of the centres, different committees were formed and *Sarpanchs* of the area were delegated with power, in some cases, implementation gaps in accommodating the huge number of returnee migrants were reported. For surveillance of COVID-19, AWWs, ANWs and SHG members were involved in ward committees. Provisions were also made for returnee migrants to work during the quarantine observing SOP guidelines for COVID-19. As an incentive, Rs.2000 was provided from the Chief Minister's Relief Fund (CMRF) to returnee migrants, who have completed mandatory 14 days institutional quarantine and seven days home quarantine successfully. Indirectly, through the process, the state government motivated the migrants to stay in isolation and tried to ensure their health check-up.

In the meantime, as a relief package 5 kg of wheat or rice per person and 1 kg dal per family per month was given as a food security measure initially for three months which was extended to November 2020. LPG cylinders were also provided free for three months. Besides, Rs. 500 was transferred as cash assistance to Jan Dhan accounts and Rs. 1000 in cash to ration card holders to meet the expenses during lockdown, whereas Rs. 1500 was given to registered construction workers to overcome the distressed situation.

Further, for the benefit of migrants, Rs. 3500 crore was announced by the central government along with additional Rs. 40000 crore for MGNREGS to absorb the returning migrants workers (*The Economic Times*, 2020), whereas the Odisha government announced Rs. 17000 crore package to provide employment and income generation opportunities for migrant workers and farmers under special livelihood intervention plan package (*The New Indian Express*, 2020a). Besides, orders on enhancement of man days under MGNREGA, issue of job cards to returnee migrants, special package on their skill development and short-term credit provisions are some earmarked steps of the state government to ensure their livelihood.

Why Do They Migrate?

Migration is an outcome of the socio-economic-political issues but in the present development scenario, it is mostly influenced by technological progress and industrial growth. When rural economy centres on agriculture, available opportunities in the locality and education also determine the migrants' access to the outer world. On the other hand, data also reflects the agricultural regression between 1995 and 2015 when more than 3 lakh farmers committed suicide in India (SAAPE, 2020). Hence, migration is more likely to be a distress-driven coping strategy against poverty and limited options for livelihoods in the areas of origin (Mishra, 2020a). Moreover, demographic transformation from rural and tribal areas to urban areas evidences existing inequalities between the farming community and others. It is also a fact that each day, nearly 2000 farmers in India are pushed towards the brink of abject poverty and are adopting migration as an escape mechanism (SAAPE, 2020). Hence, tackling the issues of migration appears to be a challenge that demands different approaches with time and space. Therefore, understanding the root causes of migration and aspirations of the migrants is required to develop a road map for an agrarian state like Odisha.

Odisha is identified as one of the poorest states of India whose economy depends mostly on agriculture. In an agrarian economy, land ownership has a direct relationship with migration as low land holding households are more likely to migrate (Nayak, 2019). The real per capita income of the state stands at Rs 24275 (72 per cent of the national average) when the monthly per capita expenditure is Rs. 716, which is lowest in the country (Ali & Sharma, 2014). On the other hand, report on level and pattern of consumer expenditure of Odisha highlights monthly per capita consumer expenditure on food and non-food items as Rs. 1123.66 (GoO, 2011-12). However, the Rangarajan Committee, 2012 has retained consumption expenditure as the basis for determining poverty. People spending below Rs. 1407 in a month should be categorised as poor for urban India; and for rural India, it is defined as an average monthly per capita expenditure below Rs. 972 (*The Economics Times*, 2014), which clearly spells out the economic status of the people of Odisha. Moreover, the people of the rural area in the state are mostly marginal and small farmers with small land holding. Hence, they have to undergo seasonal unemployment leading to migration from rural to urban areas in search of alternative livelihoods during the lean period, i.e. during winter. Adoption of commercial crops has led many to borrow money at high rates of interest from private sources and repayment has become a burden to them. Besides, abject poverty and unavailability of adequate employment opportunities in the locality compels labour force from rural Odisha to migrate to comparatively more developed areas in other states to work in different small-scale industries, textile mills, etc. Hence, the shrinking opportunities in agriculture meant a dire need for labour families to search for alternative livelihood opportunities (Mishra, 2020b). Distance is not a matter for the person who is undergoing economic and social deprivation. In the current economic scenario, the youth lack interest in agriculture and aspire for white collar jobs in an industrial set-up due to which more and more number of migrants are found in this age group. Besides the lure of instant income, escape from the treachery of poverty at home as well as family pressure, motivate less-educated youngsters to migrate.

According to the National Sample Survey, the movements that resulted in change of the usual place of residence (UPR) of the individuals are treated as migration, whereas a household member whose last UPR is different from the present place of enumeration is considered as a migrant. People migrate because of many reasons, but when it is associated with better livelihood opportunities in the destination area, it draws attention starting from development workers to policy makers, from non-government organization to government, from

academia to think tank planners. The reason for migration was first introduced in 1981 census. Census as well as report on migration in Odisha highlighted the major reasons of migration as (i) employment opportunities, (ii) business, (iii) socio-political problem, (iv) involuntary displacement, (v) natural disaster, (vi) marriage, etc. Many migration studies are also carried out focusing on push and pull factors (Samal & Meher, 2012), but most of the time, migration is adopted as a survival strategy to escape from abject poverty and indebtedness. Hence, it is required to acknowledge migration as last resort and a vital livelihood strategy as remittance from this contributing to upliftment of the socio-economic status of the concerned families. Particularly, neoliberal or post-colonial policy of development has escalated the rural-urban economic disparities, invigorating the migration.

Migrants' World: Journey from Origin to Destination and vice versa

Usually, migrants live in two worlds, i.e. urban insecure environment and stable homeland (Meher & Nanda, 2020). When they migrate from the area of origin to emerge from the vicious circle of poverty, they are subject to prejudicial treatment with a status of outsider in the area of destination. They are deprived of access to the social security schemes and pushed into the arena of many folded vulnerabilities. When the unprivileged and underprivileged rural and tribal people are migrating to meet the demand of their consumption needs and upgradation of social status, migration boosts supply of cheap labour mostly in the informal sector for the destination without a burden of ensuring any humanitarian rights or labour laws. Numerous reports on migrants highlight their inadequate wages, poor and unsafe working environments, squalid living conditions and the heavy burden of work (SAAPE, 2020). In the capitalistic world, they are the foundation stones in the castle of civilization but their status is always in dilemma both at the place of origin (homeland) and place of destination (work area), whereas the remittance received by the migrants' families and availability of cheap labour force for destination areas confer a view of win-win condition at both the ends. The journey of migrants from the native place, encompassed with sacrifice and emotional detachment from their social cohesion, is contributing to the development of big cities and industries. However, later with the growth of cities, eviction of these migrant labourers goes on. Sometimes, in order to dodge the Inter-state Migrant Workmen Act 1979, different medium and small industries establish small units within the work premises to show that they have employed less than 10 employees (Verma et al., 2020). The migration study also reveals that seasonal migration does not

bail out the poor from their vicious circle of poverty; rather it ruins their socio-cultural life and makes their progeny bonded to indentured wage work like their parents (Nayak, 2019). They have to face loss of democratic rights, social security protection and protective community (SAAPE, 2020). This pushes them into the vein of the economic as well as social exploitation, particularly, in a situation like the present COVID-19 pandemic, which led them from opportunity to destruction. Due to shut down of worksites in mid-March, most of them were not paid and they had no money also as they remitted the earning to their families in the beginning of the month. When the migrants without job and money to meet the day-to-day expenses in the destination states tried to come back to their native land, they were forced to stay back due to travel restrictions and retention policy of the government. Overnight, their status was reduced to tramps. Rulers devalue labour and dissociate them from decision-making process, which indicates the subjugated position of the migrants in the neo-liberal market economy (Mohanty, 2020).

Migrants in the informal sector are mostly engaged in hazardous works and leading an unsafe life. As they are more inclined to earn and save money, they compromise with their working as well as living environment. They neglect their health and nutrition as more than 70 -80 per cent of their income is sent to meet the consumption demand of families (Mishra, 2020b). They try to manage in *jhumpudi* (dwellings in slum area) jointly with other members. They share common toilets and live in an unhygienic condition. Compulsion to accumulate savings closes their eyes to the other aspects of life which makes a person worthy. Due to their lifestyle in the destination area, they were treated as risk-bearing groups during the pandemic, which gave rise to xenophobia attitude towards them at both the ends, i.e. in native as well as in destination areas. They were socially excluded in their own land in fear as they got the status of virus carrier.

The migrants from Odisha usually go to different states through labour contractors or *Sardars* without legal documents or formal registration for which they are deprived of the citizenship rights in the work place. They not only suffer from exploitation at the workplace but also sometimes facing violence and discrimination. Their sufferings remained invisible for long though activists have started questioning the denial of basic rights (Mishra, 2020b).

The migrants have gone out of villages in search of livelihood. When the pandemic closed doors, their homeland was also not prepared to welcome them.

An unanticipated employment crisis and blockage in flow of income pushed them into hostile circumstances and they started returning to the area of origin. Report shows that 78 per cent of the migrants were not paid since lockdown, whereas more than 50 per cent had no ration to consume (SWAN, 2020), due to which surviving in the destination areas was a difficult task. On the other hand, their unemployment has stopped the source of remittance flow and added to the vulnerability of the families. The returnees are forced to work in agriculture farms and as daily wage labourers as no alternative options are found in the locality. Due to lockdown, they were unable to sell their agri-products and income from land which was also adversely affected because of closure of local markets for perishable crops. The only survival strategy left with them is daily wages, which is also a daydream for them. The demand for MGNREGS work has soared in the villages but its availability is far from adequate (Mishra & Thappa, 2020).

Migration Trend

The National Sample Survey Office (NSSO) as well as the census fails to capture the short-term seasonal movements, which form a large component of the migration process (Dandekar & Ghai 2020). However, in the modern society, migration is viewed as an opportunistic movement compounded with social identity. In search of better opportunity and to improve the standard of living, people from rural and tribal areas of Odisha are migrating to different parts of India. The inter-state migration trend can be viewed from two broad patterns, i.e. as observed during 1980s and 1990s from high income states to low income states and in recent period from northern and eastern states to the western and southern states (Jafar & Kalaiyarasan 2020). Odisha is well known as the labour supplier state and the most preferable destination for migrants of Odisha are the southern states. Rapid urbanisation, industrialisation and economic prosperity of the small towns, cities, etc. have become major motivational factor for the rural and tribal people to migrate to those areas. Government policy is also more favourable for the urbanisation process. Therefore, all the voluntary migration decisions have strong economic rationale to move from impoverishment to prosperity (Mohapatra & Jha 2019). This migration may be short-term/seasonal or long-term, but livelihood is their focus. Census data on the number of households shows an increasing trend of inter-state migration since 2001 (Table 2). Further, the share of female migrants is found to be more in number than male migrants in all the census years.

Table 2: Inter-State Migration in Odisha

Census Year	Total Migrants	Male	Female	Percentage Change of migrants
1961	332078	150992(45.47)	191086(54.53)	-
1971	492661	229674(46.62)	262987(53.38)	48.36
1981	688300	303403(44.08)	384897(55.92)	39.71
1991	592292	227953(38.49)	364339(61.51)	-13.95
2001	662800	265120(40.00)	397680(60.00)	11.90
2011	855096	335575(39.24)	519521(60.76)	29.01

Source: *Census of India*, Various years

Note: Figures in parentheses are percentage to total

As mentioned earlier, migrants prefer urban areas as their destination place to fulfil their desired life and livelihood, in search of better income, health facilities, and education for children as well as to make themselves free from the autocratic social stratification. The desire for a change in status-quo and self-satisfaction has been attracting more number of migrants to urban area over the years. The population growth in urban area of India (Table 3) also clearly indicates the migration trend of rural people shifting to urban area to lead a better life with the available facilities and amenities in the urban area.

Table 3: Trend of Urban Population in India

Census Year	Urban Population (in millions)	Growth (%)
1901	25.85	-
1911	25.94	0.35
1921	28.07	8.21
1931	33.46	19.20
1941	44.15	31.95
1951	62.44	41.43
1961	78.94	26.43
1971	109.11	38.22
1981	159.46	46.15
1991	217.18	36.20
2001	286.12	31.74
2011	377.11	31.80

Source: Census of India.

Report on migration in Odisha, 2007-08 indicates that about 20 households per thousand (2 per cent) are migrating from rural areas due to compulsion, which can be viewed as distressed migration, whereas 44 households per thousand (4.37 per cent) are migrating from urban areas for better job opportunities or higher studies (Govt. of Odisha 2008). It is also seen that 58.8 per cent of the migrants from rural Odisha have no option to take up any economic activities for which they migrated; whereas, majority of the migrants from urban areas are engaged in regular job. Further, the migration from rural Odisha is temporary or seasonal, i.e. from six to eight months and these migrants are mostly working as construction labour, spinning mill worker, mason, plumber, brick maker, painter, etc. (Ali & Sharma 2014). There were 55,000 seasonal migrants from Odisha in 2007, which increased to 87,000 in 2008 and 1.05 lakh in 2012 (ToI 2016). Further, increasing trend is noticed as there were 1.20 lakh migrants in 2013 and 1.35 lakh in 2014, and 1.46 lakh in 2015 (ibid). However, no such data base has been developed by Odisha government for enumeration of these migrants. Generally, the seasonal or temporary migration is an undocumented labour flow without a safety net.

According to Daniel (2011), "Migrant Oriya labourers in Surat only constitute 0.8 million, and a conservative estimate of migration poor people from south, north, western and the central region of Orissa is estimated to be 1.5 million. The high economic growth cities of Delhi, Chennai, Hyderabad, Bangalore, Kolkata, Mumbai, Surat, Raipur, Vishakapatnam and mining rich regions of Jharkhand has been the major hub for Oriya migrant labourers. Sectors such as, construction, textile, mining, brick kiln, poultry, plantation, agriculture, stone quarries, cotton ginning, apparel, rubber plantations have been the favourite employments providers for the migrant people". This needs to be documented in order to focus on planning that responds to the need of the migrant workers.

Reverse Migration and Employment Strategy

Migration is not a new concept in the society, but it differs with reference to place and time. Specifically, reverse migration is a matter of debate in the economic development strategy. Usually, people return to their homeland to lead a peaceful life with their near and dear after retirement. Sometimes, socio-economic factors like marriage, family problem, social rejection, cost of living in the cities, etc. also decide the return migration of the people. However, the COVID-19 pandemic forced 543905 inter-state migrants to return to their home state Odisha (ToI 2020) as they have no other alternative but to return to their villages. According to sources, nearly 2 lakh migrants returned to Ganjam (Das 2020). Thus, in reality, the number of returnee migrants might be more than

the official data. This massive reverse migration has pauperized the rural labour force of the state. This will impact the wages and intra-household allocation of work and the labour force (Srivastava 2020). While the lockdown has demoralised the migrants in the destination, at the same pace it has forced the state government to assess the migrant worker situation for making necessary arrangements for their return and ensuring zero walking. An initiative of Rs. 2000 per migrant was provisioned for the returnee migrants, who would complete the institutional quarantine. Migrants who returned to their homeland have less or no alternatives of earning money. The pressure of this reverse migration also falls on the fields of agriculture and allied activity. On the other hand, their small piece of land cannot sustain their livelihood in such a crisis. Availability of daily wage and demand of artisanal works in an economic regression scenario of Odisha is also nightmare for them. The long-term absence from the home may be a challenge for the migrants to access assistance from the government or unemployment benefits. Their future is found to be bleak and uncertain. At the same time, it is creating competitiveness among the natives on productivity and jobs. Therefore, the issue of migrants has emerged as a need of the hour in development dialogue/approach.

The catastrophic result of the lockdown has shown the importance of the inclusion of the migrant workers in the economic growth process to the planners and policy makers. To combat the prolonged lock-down, people need to be affluent. However, almost half of India's wealth lies with one per cent of the richest citizens of the country. Further, 74 per cent of the nation's wealth is controlled by 10per cent of the rich people (Herald, 2020). Thus, it is a big challenge before the government to give gainful employment to these returned migrants as decline in economic activities will push them into poverty and below the poverty line. There is a chance that these returnee migrants may fall into exploitation and debt trap, which would force them to compromise with the situation. Hence, there is a need for special social security measures to absorb them. Thus, the government is coming up with plans for their registration, skill mapping, and employability measures. The Odisha government has announced Rs. 17000 crore package for rural development and MSME revival to provide employment and income generation opportunities for migrant workers. Emphasis was given to the issue of job cards and enhancement of man-days to accommodate returnee migrants. However, the current situation demands framing of both short-term and long-term strategies not only to support economic upliftment but also for social, health and nutritional betterment. A plan should be drafted to avoid the risk of distress, human trafficking and re-migration (*The Pioneer*, 2020a).

It is high time the government initiated the skill and knowledge mapping of returnee migrants to develop livelihood strategies. Identification of skilled, semi-skilled and unskilled people will help in reframing the approach to a more need based. This can also be considered as an opportunity for the migrant labour force to stand tall and fight for their rights in terms of better wage, social security, profit sharing, etc.

Moreover, central as well as state governments have given emphasis to MGNREGS for addressing the unemployment issues of returnee migrants. The wage rate has also been increased by Rs. 20 (Rs. 182 to Rs. 202), but effectiveness of MGNREGS to ensure rural livelihood security lies in creation of work potential, timely payment, stringent monitoring mechanism and social audit process, good governance system, etc. Migration in Odisha is mostly debt induced. Hence, identification of vulnerable families and timely payment of wage should be ensured. Creation of quality and productive assets needs to be ensured for sustainability of livelihood initiatives.

Most of the activities under MGNREGS rely on group labour, where COVID-19 guidelines need to be strictly followed (Seshan & Biswas, 2020). A database is needed to track the progress as this would capture issues in their livelihood, health and nutrition aspects in the COVID-19 crisis.

The skilled and semi-skilled workforce may not participate in the labour-intensive work of MGNREGS. Thus, the government needs to focus on them also. Strategies need to be developed on the basis of their land holding pattern, which will help in creation of durable assets for agriculture and allied activities, transforming the responsibility of asset management for sustainable development, and ensuring forward and backward linkage of rural economy with a larger economic frame. Issue of migrants should be addressed in an institutionalised manner with human rights approach. The communication and information technologies also leverage the employability of migrants in different formal sectors addressing their need.

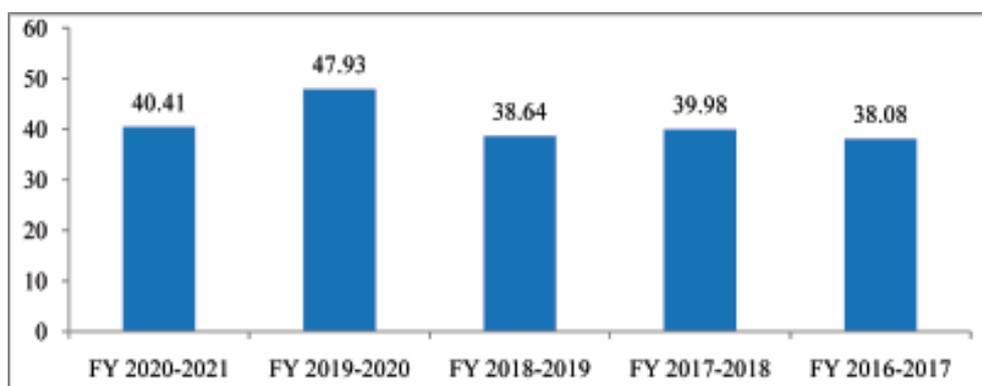
MGNREGS does not provide constant employment opportunities to labourers (Odisha Bytes, 2020). Thus, MGNREGS can be a strategy to absorb the migrants for the time being, but it may not alone be able to address the problem. As per the Odisha economic survey report, 2019-20 (Govt. of Odisha 2020) person-days created through MGNREGS during the last four years shows a fluctuating trend in workforce participation, particularly among vulnerable groups like women, ST and SC population (Table 4).

Table 4: Person-days Generated through MGNREGS by Odisha Government

Year	No. of person-days generated (in Lakh)			
	Total	Women	SC	ST
2015-16	892.7	339.4	141.8	372.8
2016-17	773.4	307.9	124.3	292.3
2017-18	922.1	386	152.9	338.7
2018-19	830.3	348.6	133.7	294.6

Source: *Odisha Economic Survey 2019-20*

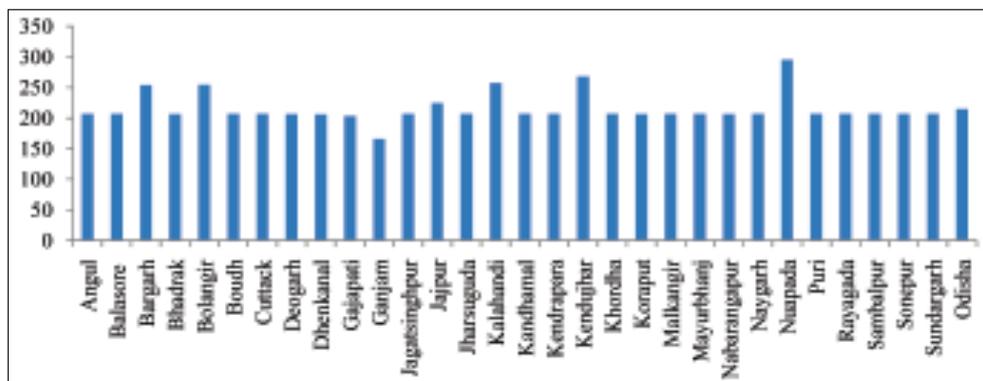
But, data on special web-site designed for MGNREGA shows that there are 178.46lakh workers in Odisha whereas as on 02.10.2020 only 73.54 Lakhs of job cards issued out of which 43.15 lakhs are now in active condition whereas there are 72.09 lakhs active workers out of which 15.98 per cent belongs to Scheduled Caste (SC) Community and 29.81 per cent are from Scheduled Tribe (ST). Till 02.10.2020 the state has created 1025.96 lakhs person days during the F/Y-2020-21 including 14.58 per cent SC person days and 36.97 per cent ST person-days whereas women person days is 43.95 per cent. But the total number of households completed 100 days of wage employment is only 78,172. Figure 1 also reveals that average days of employment provided per household is in a fluctuating trend which can give an insight on its success in providing employment to returnee migrants. The data depicted in the figure shows that the average days of employment through MGNREGS during last couple of years in Odisha was far less than the 100 days of employment promise which is a major concern for management of returnee migrants in the current COVID-19 crisis.

Figure 1: Average Days of Employment Provided per Household

Source: Web portal of MGNREGS as on October 2, 2020

Similarly, when the government enhanced the wage rate from Rs.182 to Rs.202 for the FY-2020-21, the average wage rate per person per day for the Odisha is found Rs.214.79. However, the variation is noticed across the districts of Odisha as shown in the Fig-2. The state announced 1.03 lakh farm ponds and 19,900 hectare area plantation as special package for COVID-19 under the flagship program of MGNREGA for returnee migrants (*The New Indian Express*, 2020c). Information gathered from different sources evidences that though the government has relaxed MGNREGS works on priority basis from unlock-2 still it is not resumed in full phase across the state which is pushing the returnee migrants into distress and impoverishment.

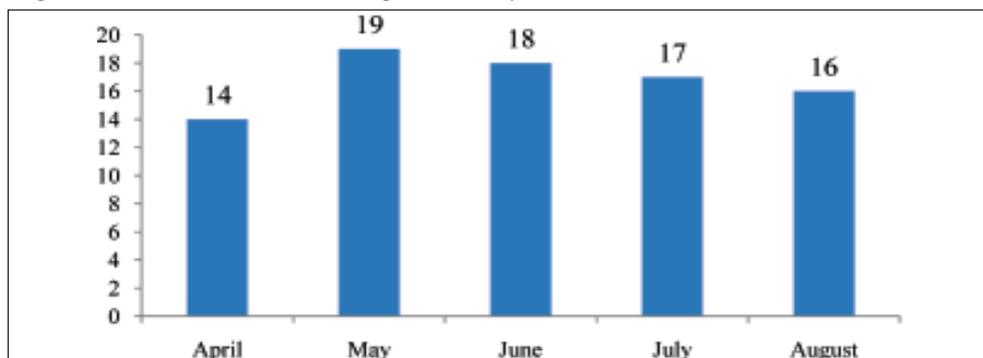
Figure 2: District-wise Average Wage Rates per Person per day for 2020-21



Source: Web portal of MGNREGS as on October 2, 2020

The month wise average no of days of employment provided under MGNREGS in the FY 2020-21 in the state is shown in Figure 3. The Central government has released Rs.271910.2 lakh to carry out the MGNREGS works whereas the expenditure status shows that from April to August 2020 the state has spent Rs.230948.7 lakh (MoRD, 2020).

Figure 3: Month-wise Average Mandays Created in 2020-21



Source: rural.nic.in

Further, the Garib Kalyan Rojgar Abhijan (GKRA) is a 125-day Abhijan launched by Prime Minister in June 2020 with a mission to address the issues of returnee migrants to provide immediate employment livelihood opportunities under which 7442323 mandays employment generated in Odisha (ibid). Besides under Atma Nirbhar Bharat Abhiyan Package declared by the state government on 16th May 2020 the Odisha government has made provisions of Rs 5.94 lakh liquidity support for various sectors. As micro, small and medium enterprises sectors have emerged as a highly vibrant and dynamic sectors with potentiality to provide gainful employment to a large chunk of population (Das, 2014), provision of Rs.3 lakh crore loan extension was made for existing borrowers and government has invested Rs.4000 crore in the credit guarantee trust for micro and small enterprises for new borrowers to avail collateral free credit. Besides, government has created an e-marketplace portal and created subordinate debt fund of Rs 20,000 crore to enable promoters of stressed MSMEs to avail loan whereas provisioned Rs 10,000 crore to encourage creation of new MSMEs. The Odisha government also planned for labour reforms to lure investors by amending factories act 1948 increasing the threshold (*The New Indian Express*, 2020b). MSMEs provide large opportunities and promoting inclusive growth with low investment creating scope in industrialization of rural and backward areas and reduce regional disparities (Das, 2014). But here the question arises how far the rural and tribal area people of Odisha are aware about this with the existing geographical barriers and to what extent of they are techno-friendliness to avail these opportunities.

When the population of Odisha is 4.7 crore, out of which 3.1 crore are in the working age group of 15-59 years, without proper skill mapping it is a difficult task to provide them employment opportunity. Skill mapping can help to know about the potential as well as aspiration of the individual, identifying the needs for fitting with the market requirement. Utilisation of information captured through “Mo Sahay App” developed by a group of IITans to support the returnee migrants capturing 308 most demanded skills across 24 industries (Orissa Economic Association, 2020) can be helpful. As the app is a platform, which provides information not only on skills, but also about the health condition of migrants, it will be easier to fit them in the job market, considering their health safety and livelihood skills. Further, by mapping the skills of the returnee migrants, the state government can develop a strategy to utilise their potential and experience for development of entrepreneurship, particularly, those who have exposure to industrially developed states like Maharashtra, Gujarat and Rajasthan. Now, there are 39 placement-linked training programme (PLTP)

according to the industrial need designed under Deen Dayal Upadhyaya Grameen Kaushal Yojana (DDU-GKY) to enhance skills for wage employments as well as Pradhan Mantri Kaushal Vikash Yojana (PMKVY) to take up industry-relevant skill training, Pradhan Mantri Kaushal Kendra (PMKK) to upgrade vocational training, which are conducted under Odisha Skill Development Authority (OSDA) to address the complex problem of youth unemployment. The government has also planned to spend Rs 140 crore on skill development of migrant workers (*The New Indian Express*, 2020a). However, the migrants and most of the unemployed youth of the rural/tribal areas have no knowledge about the same due to which they are falling into the trap of the labour contractors. Awareness drive at GP/cluster level as well as placement counselling at school/college level may help them to gather all the information. Media can play a major role to reach out to the critical youth mass (15-35 years age group), who are almost half of the total population.

The government has also declared short-term credit provisions under MSME to take up entrepreneurial activities. However, this needs infrastructural facilities like continuous power supply, connectivity, water supply, etc., whereas, rural Odisha lacks these facilities and squeezing the scope for entrepreneurship development. Hence, while designing any such entrepreneurship activity, there is need to look into the available resources and facilities in the locality and to explore the alternative possibilities. Experience with the existing government machinery says that it is a time-consuming process, which does not attract the poor migrants who need immediate financial assistance to meet the consumption demand of the family. Hence, financial assistance avoiding complicated documentation process to the returnee skilled migrants and technical guidance coupled with close monitoring from the concerned department may address the issue in a long term.

Relaxation of lockdown-4 for inter-state and intra-state movement of persons opened the door for aspiring migrants who wanted to go back to their destination states. The study shows that absence of skilled employment in villages motivated 2/3 of returnee migrants to resume their job in the destination states (*ToI*, 2020b). However, due to acute distress and psychological aversion during the pandemic, most of them were reluctant to travel a long distance. Around 71 per cent of the returnee migrants were not interested in going outside the state if they found a stable employment opportunity (Odisha Bytes, 2020). This may give rise to anti-social attitude among the aspiring youths in the locality in case of non-availability of suitable employment opportunities as well as a crisis in the supply of the workers in the destination areas.

Recently, re-migration of the migrants from Ganjam (the COVID-19 hotspot district of Odisha) to Surat due to non-availability of job in their locality was reported, which indicates the inefficiency in implementation of measures and lack of political will. Now, agents are found actively contacting the returnee migrant labourers of Odisha informally, i.e. over telephone or by personal meeting and motivating them to go back to Surat's textile industries (Das 2020). Hunger and starvation is troubling the migrants and making them desperate. Lack of livelihood options in the native areas are forcing the returnee migrants to return to their destination states. Returnee migrants from Bolangir and Jagatsinghpur have returned to Rajasthan, their workplace by bus sent by the employer (Barik 2020); and in Ganjam, about 8000 migrants have registered in labour department office for their return journey through labour contractors (Das 2020). Thus, MGNREGS alone cannot address the issues of migrants, for which there is a need to explore the alternatives with a need-based approach.

Reframing and Relooking the Prospects

Migration is a complex phenomenon empowered with constitutional rights. Hence, no policy can stop it, but there is an urgent need to develop a strategy for tapping of human resources. The devastating circumstances of the migrants during the lockdown imposed to contain COVID-19 gives emphasis on the re-unification of labour market needs with registration and formalization of the workforce and greater job security being provided to informal workers, including the seasonal migrants (Srivastava 2020).

The seasonal workers do not undergo any formal registration. Thus, without any official record, they are deprived of the urban governance facilities and schemes and unable to access the basic facilities and services in the destination. Thus, adequate social protection measures may be developed to address blind spots experienced in lockdown due to the pandemic, which will help the urban planner and policy maker to view migrants as title holders to access public provisioning and services. Proper enforcement of labour law is also required.

The returnee migrants are not only unskilled, but also semi-skilled and skilled. The creation of 20 lakh man-days of employment per day under MGNREGS, as announced by the Odisha government, would only attract the unskilled migrants, but not the semi-skilled and skilled migrants (Meher & Nanda, 2020). Thus, to absorb their potential, the government needs to think beyond MGNREGS and entrepreneurship development infrastructure base needs to be strengthened.

Odisha is well known for its agri-products, but has no proper cold chain logistics and value addition strategies. Thus, emphasis may be given to food processing and value addition as well as construction of cold stores along with backward and forward market linkage. As Odisha is an agrarian state, steps may be taken for multi-cropping through land and water management strategies. Emphasis on Gandhian model of development³ of rural economy may be adopted to make it self-sufficient and for tapping of migrants.

The state of Odisha inherent to its location and natural resources has tremendous potential to create ample opportunities in small business in various sectors, which can address the issues of unemployment and poverty (Das, 2014). Unofficial estimates claim that around 7 lakh Odia migrants are working in Surat textile mills; most of them are from Ganjam. Similarly, though Bolangir is famous for handlooms and cotton is cultivated in the region, still people of the area usually migrate to Tamil Nadu to work in textile units. All the 13 textile industries, including the Odisha Textile Mills (OTM) have remained inoperative for long (*The Pioneer*, 2020b). The 13 spinning mills, which were supplying threads to textile firms have also been closed (Ibid). Thus, there is a need for revival of these textile/spinning mills, which can absorb these migrants. Further, Odisha is well known for its handlooms and handicrafts, but now the communities are not showing interest towards this as they are not getting minimum support price (MSP) for their product in comparison to their hardship. Further, to enter the present competitive market, they need support and skills for applying modern technology, which can also be taken care under MSME in cluster approach. Similarly, Odisha's coir industry can attract the migrants going to work in the carpet industry in other states. This can be promoted as start-up programme under MSME. The policies framed by the government should be implemented at the ground level with a vigilant mechanism. Emphasis must be given to revival of rural artisan, handloom industries and micro-entrepreneurship. Above all, adequate and timely funding, engagement and retention of skilled labours, suitable technology and marketing linkage are key factors that need to be considered for the success of MSME initiatives.

¹ The Gandhian model of development basically talks about the decentralisation of economy and reconstruction of economic system to be village centric/community based economy, which will help in reducing unemployment and migration by providing job in the locality through promotion of self-sufficient and self-reliant villages.

As per the IDCO web portal report, there are 174 projects (includes both MoU and non-MoU projects) in the pipeline as on July 28,2020, while many companies are interested in investment in Odisha, which may be explored as an option for creation of employment opportunities for the people of the state. Odisha is a resource-rich state with more than 26 minerals and is a destination for many investors. “Make in India” launched by GoI in 2014 and “Make in Odisha 2020” attracted more companies to Odisha for investment in industrial projects. This will lead Odisha to unprecedented industrial development of the state. This can be an alternative livelihood option for the aspiring migrants of Odisha. Skill development programmes should be encouraged to suit the industrial requirement.

Conclusion

Migration from an agrarian state like Odisha is an outcome of poverty, declined agriculture sector and employment opportunities in the locality. Restrictions on migration without proper employability strategy will bring devastation. However, the prolonged lockdown has made the life of migrants miserable, which is being evidenced through media coverage. Temporary arrangement of food, quarantine, health check-up and cash allowance may address the immediate needs of the migrants, but focus on policy and social action is required to address the issues in the long-term (Mohanty, 2020). Their return to native land has direct impact on the employment and wage scenario of the area as well as on allocation of intra-household works. The state government is planning to tap the migrant workforce through MGNREGS. No doubt, MGNREGS is designed with a motto to provide employment to labourers with promise to provide 100-day jobs to the interested family and to address the distressed migration. It has tremendous potentiality to absorb the returnee migrants, but the question arises here whether with the present implementation scenario, MGNREGS alone can address the distress and starvation issues of the migrants. This seems very hypothetical. Hence, the need of the hour is to think beyond MGNREGS for job security of this informal sector workforce with institutionalized form of social protection and revival of employment strategy fitting their aspiration and skills.

As migration is a complex issue intertwined with social, economic, geographical, political issues, it requires a holistic approach and combined effort of different stakeholders. At the outset of the issue, there is need to frame MSP policy for agriculture, which will benefit the huge number of small and marginal farmers

of Odisha. Credit facilities may be made available for investment in farm activities at the doorstep avoiding complicated procedure of bank linkages. Besides, strengthening of agriculture infrastructure as well as backward and forward linkage of agrarian economy with wider economy is required. Moreover, land holding pattern should be taken into account for creation of durable assets for agriculture and allied activities and transforming the responsibility of asset management for sustainable development.

Implementation of MGNREGA may be carried out as per demand and wages may be released on time. The lacunae identified in the past may be rectified and time to time monitoring observation report may be analysed to reach out to the people who are vulnerable to migration. The quality and durability of assets created under the intervention should be ensured for sustainability of the rural economic progress.

Strategy may be adopted for revival of old and new sectors under MSME for creation of employment opportunity. More particularly, focus should be given to revival of rural economy based on artisans and handlooms with effective policy framework and stringent monitoring system. Emphasis must be given to MSME in local region using local resources and linkages with larger enterprises, proving training, gearing education appropriately. Robust linkage to schemes such as cluster development programme and regeneration of traditional industries may address issues of capital investment, technology, quality and market access.

Database should be developed on the migrants at Gram Panchayat level and steps should be taken to make them aware of the Inter-State Migrant Workmen (ISMW) Act, benefits of registration, work environment, security measures, etc. The state government needs to negotiate with the destination states and emphasise the registration of the migrants for implementation of ISMW Act, ensuring their minimum living and working conditions in the workplace.

There is a need to integrate migrant needs into the national pandemic strategy and formation of national task force to look into the migrant issues. For the sake of building solidarity and addressing issues like COVID-19 pandemic, linkages may be established, starting from local to global system.

Above all, preparedness and response architecture with multi-stage strategic planning is required in a shrinking economic condition to balance the national interest and humanitarian responsibility.

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COVID-19 and Challenges to the Healthcare Sector in Odisha

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Abstract

The present paper tries to determine the major challenges to the healthcare sector due to COVID-19 pandemic. It has analysed the trend of this pandemic and the strategy to tackle the situation. The paper has also discussed the availability of health infrastructure and its financing. It is found that the current infrastructure and expenditure pattern has been ineffective or inadequate to face such a situation; while on the other end is a dismal picture where day by day, the virus is spreading at a rapid pace and is becoming uncontrollable. As Odisha has made various efforts to contain the pandemic with a hard pressed budget, it is suggested that the state should be equipped with good health infrastructure and increased healthcare spending to deal with a similar situation efficiently in future without neglecting other diseases, which is important for human protection and development.

Keywords: COVID-19, Healthcare infrastructure, Healthcare expenditure, Odisha

1. Introduction

The current global pandemic of novel corona virus or COVID-19 has brought an unwanted situation of panic and fear among the people. At the same time,

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it has brought challenges to the healthcare sector globally. It is non-discriminative in spreading havoc across the globe. In fact, well developed countries like USA, Italy, Russia, etc. are also falling prey to the predatory nature of the virus. It has exerted pressure to look into the ongoing research activities in the health and medical sector. It has further proved that no medical science could be called as advanced and well equipped to fight an unforeseen pandemic. Further it has forced the researchers in various sectors to be prepared and conscious about any such circumstances in the near future. The pandemic has brought apprehension to a developing country like India where the health sector is not so demanding, especially in terms of research and development activities. The demand and supply side in the health sector of the country is always in a mismatch situation, whether it is the infrastructure, medical workforce, modern or necessary equipment, etc. The current pandemic calls for extra care and protection even to the health workforce. The shortage of protective kits like PPE for the medical staff has resulted in the spreading of the virus among them throughout the country. Measures like lockdown and formulation of rules and regulation for the people to stop spreading of the virus has worked with a limited effect. It can be well-verified through the rate of increment in the confirmed cases on a daily basis.

The state of Odisha is not well prepared to be free from the deadly fangs of the virus. The state acknowledged for its poor or below average healthcare services has become victim to the virus. Though the spreading of virus is not as much as the other states like Maharashtra, Delhi, etc. due to the timely intervention of the administration, still it is in a condition of negligence. The policy of the National Health Mission has not been satisfactory with several loopholes in the healthcare services. The case of rural healthcare services is further susceptible. The present healthcare system is not adequate in conducting the fight against the deadly virus. The state has focused on preventive measures to combat the COVID-19, but the lack of vital health services and the poor coordination in lining up the services supplementing it is worsening the situation. The spreading of the virus in the state is mainly due to the migration of the people from different regions. Although it is quite impossible to transform the healthcare system in a quick time frame, a step in the right direction would definitely help in combating the situation. The upcoming days are going to be challenging for both the state and the union government in taking strong action to meet the emergency. The paper tries to look into the trend of the spreading of the virus in the state along with the infrastructure provided to tackle the situation. It also focuses on the measures taken by the government to check

the spread of the virus along with steps taken towards its complete eradication and discusses the challenges to the health sector.

2. Brief Review

The public healthcare system in India is inefficient and dysfunctional to match the needs of the vast population of the country, which is attributed to the shortage in the healthcare delivery system (The Economic Times, 2020). In case of insurance coverage, less than 20 per cent of the Indian population is covered under any insurance scheme (Dey, 2015). Due to this, a larger segment of the population avail health services through out of pocket expenditure. The supply of essential healthcare services is an urgent need in this period; thus, the necessary and timely intervention of the government is required to maintain equilibrium in the demand and supply of healthcare services (Health care radius, 2020; Jain, 2020). According to Pavan Choudary, the Chairman and Director General of Medical Technology Association of India, in-patient care in India has always been relying heavily on the supply of medical devices to the healthcare sector. The recent lockdown due to the pandemic has interrupted the supply system. The situation has not improved even after partial lifting of the lockdown, resulting in quasi-operation of the medical warehouses, which are either shut or operating with 20-30 per cent capacity. In the words of Bharadwaj (2020), India's healthcare infrastructure is incapable of dealing with this crisis today. The most developed countries with advanced healthcare services have also fall apart in providing beds, ventilators, protective equipment and other necessary intensive care services (Sahu et al, 2020; Ferrara& Albano, 2020). In addition to medical supplies, the other major issue includes the inability of the government in providing adequate testing facilities (Kumar et al, 2020). There is hope from the announcement of Rs. 15000 crore by the honourable Prime Minister for building infrastructure to fight against the virus. The Indian government is taking various initiatives to maximize its capacity in fighting against COVID-19, whether in imposing strict lockdown, announcing the economic package of Rs. 20 lakh crore (Nabar et al., 2020) or launching a smart phone application *Aarogya Setu* to help citizens in combating the pandemic. The state governments are also joining in the efforts to deal with the situation.

Treatment of patients affected by other diseases has suffered as major attention has been given to the treatment of COVID-19 patients (WHO, 2020). The situation is significant as the mortality rate is high among persons affected by

non-communicable diseases (NCDs). The current hospital occupancy in India is found to be around 30 per cent because of the restrictions on elective surgeries and isolation as framed for COVID-19 patients. So, this paper tries to assess the current situation and also to highlight the major challenges to the healthcare system in Odisha to fight against COVID-19 and the post-pandemic scenario.

3. COVID-19: An Overview

Coronavirus disease affects different people in various ways. It causes infection to the human body through nose, sinuses and upper throat. According to World Health Organization (WHO), coronavirus disease (COVID-19) is an infectious disease caused by a newly discovered coronavirus. Symptoms are categorised as symptomatic and asymptomatic. A symptomatic case includes fever, dry cough, chest pain, loss of movement and tiredness and asymptomatic cases are mild in nature, which people can take care themselves at home without availing any health facilities. Immediate medical treatment is required if the person is suffering from serious symptoms like difficulty in breathing, chest pain and tiredness. It takes 5-6 days to identify whether a person is having viral symptoms and the disease can extend up to 14 days. The first positive case of coronavirus in India was confirmed in Kerala on March 16, 2020. Now the Government of India is analysing the situation and redesigned the strategy to manage the pandemic in a predefined manner. It has initiated various protective measures to curb the crisis in the form of lockdown and shutdown to avoid social gathering of people. Social distancing is considered as a panacea to fight against the Coronavirus. An overview of COVID-19 in the global and Indian situation along with the state of Odisha is presented as follows.

Global Situation

The present situation of COVID-19 is considered as a global epidemic, which is spreading at a rapid pace on a daily basis. There is an urgent requirement for revival of the healthcare sector to meet various unforeseen circumstances. The current health infrastructure seems to be inadequate in addressing the pandemic (Ferrara & Albano, 2020). Shortage of medical equipment and inadequacy of testing laboratories are considered as the major problem. The same problem exists in almost all the countries. In some developed countries like USA and Italy, doctors are compelled to prioritise whom to save and whom to leave untreated.

The global context shows a growing trend among the nations. The cumulative figure shows 37715668 cases registered by October 13, 2020 with global spread of coronavirus among different segments of people and mostly in the old age group. These people have various other health problems are more vulnerable to the virus. Out of the total number of confirmed positive cases of COVID-19 patients across the world, USA is at the first position; whereas Brazil is at the third position by October 13, 2020. India jumped to second position from third position in a gap of only one month owing to the increasing number of positive cases per day (WHO Dashboard). Till October 13, 2020, the death count due to the deadly virus is found to be 213291 in USA followed by 150488, 109856, 83781, 42875 and 36205 numbers in Brazil, India, Mexico, UK and Italy, respectively. A promising sign is the lesser number of deaths recorded in countries like Sri Lanka, Singapore and Botswana.

Indian Situation

In India, there is an increasing trend in the confirmed positive cases. Even though, the Government of India has provided various effective and protective measures to fight COVID-19, still in the situation is miserable. There are 3 types of tests conducted in various government and private medical institutes as mentioned in Indian Council of Medical Research (ICMR Report): Real Time PCR, True Nat test and CBNAAT test. Out of the total tests, 71% of the testing laboratories are the government medical institutes and remaining 29% are private medical institutes. While in states like Delhi and Telangana, a major share of the tests are done in private medical institutes; in states like Goa, Himachal Pradesh and north-east states, except Assam, all the tests are done in government medical institutes. In Odisha, 76.67% of the tests are done in government medical institutes and the remaining 23.33% are done in private institutes (ICMR Report). The national figure also shows a dismal picture, where 9996 new confirmed cases per day were found on June 11, which increased to 55342 on October 13, 2020. New confirmed cases are showing a constant growth in a daily basis with 2 to 3 per cent increase per day (WHO Dashboard). Maharashtra holds the first position in the country, whereas Andhra Pradesh, Karnataka, Tamil Nadu, Uttar Pradesh and Delhi are at second, third, fourth, fifth and sixth positions, respectively. Odisha stands at ninth position with increasing number of positive cases. At the same time, the highest number of total deaths is found in Maharashtra with 40859 deaths, whereas Tamil Nadu, Karnataka and Uttar Pradesh stood at second, third and fourth position with 10423, 10198 and 6507 number of deaths, respectively.

Odisha is ranked at sixteenth position with total number of 1125 deaths on October 13, 2020. More than 9 crore tests have been conducted in India where Uttar Pradesh stands in the first position, Bihar, Tamil Nadu and Maharashtra hold second, third and fourth position on October 13. Odisha validates only 38.8 lakh number of tests, which is only 8.81% of the total state population³. Recovery ratio⁴ shows the highest rate in Mizoram, Bihar, and Andhra Pradesh with 94.6%, 94.2% and 93.7%, respectively. These rates show a remarkable achievement in the fight against COVID-19. Meghalaya, Arunachal Pradesh and Manipur show minimum rate of recovery from virus with 69.9%, 75.9% and 77.6%, respectively. Highest rate of active cases are found in Kerala, Meghalaya, and Arunachal Pradesh with the rate of 30.3%, 29.3% and 23.8%, respectively; whereas lowest rate of active cases from coronavirus was reported in Bihar, Mizoram and Andhra Pradesh with 5.3%, 5.4% and 5.4%, respectively. Till October 13, 2020, Odisha had 8.7% of active cases out of total confirmed cases as reported by the Government of India. Largest number of reported deaths due to coronavirus has been found in Punjab, Maharashtra and Gujarat with 3.1%, 2.6% and 2.3%, respectively. As compared to other states and UTs, Mizoram, Daman & Diu, Arunachal Pradesh, and Nagaland reported lowest number of deaths out of total confirmed positive cases with the rate of 0%, 0.1%, 0.2% and 0.2%, respectively⁵.

Odisha Situation

The number of confirmed positive cases in the state is rising at a steady rate from June 11 to October 13, 2020 (Figure 1). The trend of cases is increasing with little fluctuation on daily basis. It may be due to the increasing number of new cases found in different regions. Even if people are aware about the situation of COVID-19, the rate of increment still persists in different age groups and segments of population. In Odisha, the first positive case was found on March 16; the number rose to 110 per day by June 11. It continued to spread in different regions taking numbers to the peak of 4356 cases per day in September

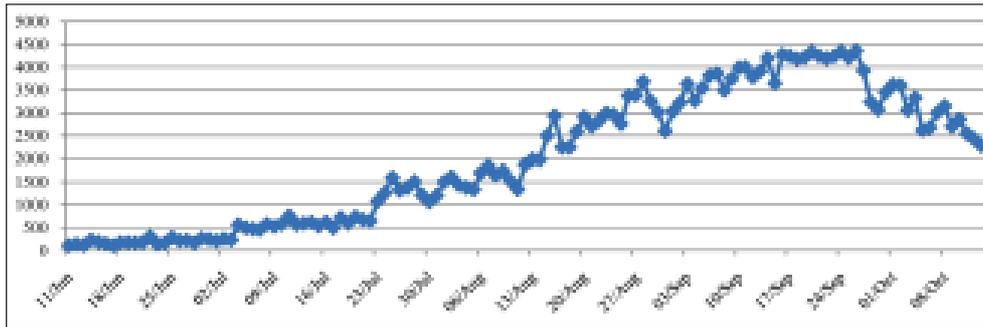
³ www.COVID-19india.org

⁴ Recovery ratio shows number of recovered cases from coronavirus per 100 confirmed cases. Active ratio includes the number of active cases for coronavirus per every 100 confirmed cases. Case fatality ratio is the number of persons who died from the virus for every 100 confirmed cases.

⁵ www.COVID-19india.org

26, which there after showed a declining trend and reached 2275 on October 13. The total number of positive cases in the state till October 13 was 259541 with 1125 deaths.

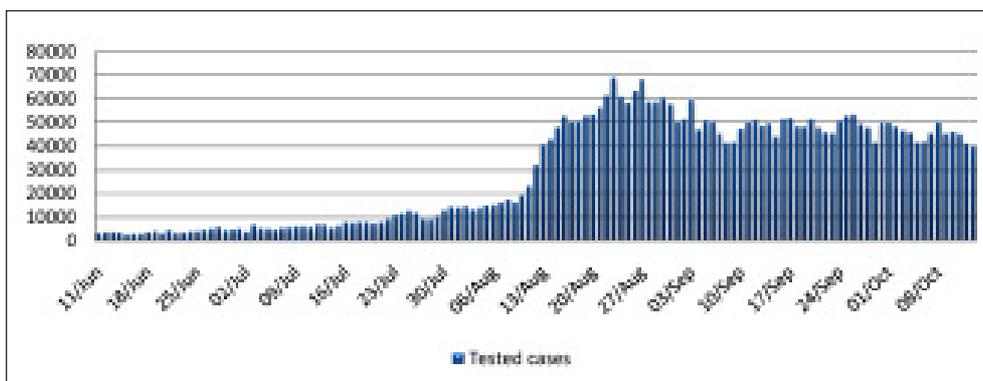
Figure 1: Number of Confirmed Positive Cases per Day in Odisha (as on October 13, 2020)



Source: Covid19 india.org

The number of samples tested for coronavirus in the state was increasing slowly till June, but there was significant improvement during July (Figure 2). It is found that on June 11, 2020, only 3342 persons were tested for coronavirus, which increased rapidly to 68906 on August 23, 2020; and thereafter showed slightly declining trend. By October 13, 2020, the total sample testing in the state increased to 3878992. As this pandemic is spreading at a rapid pace, it has been necessary to increase the testing of cases to detect the actual number of people suffering from the disease.

Figure 2: Day-wise Available Number of Sample Tests in Odisha (as on October 13, 2020)



Source: Compiled by the author from www.Covid19India.org

4. Current Scenario of Health Sector in Odisha

Healthcare Status in Odisha

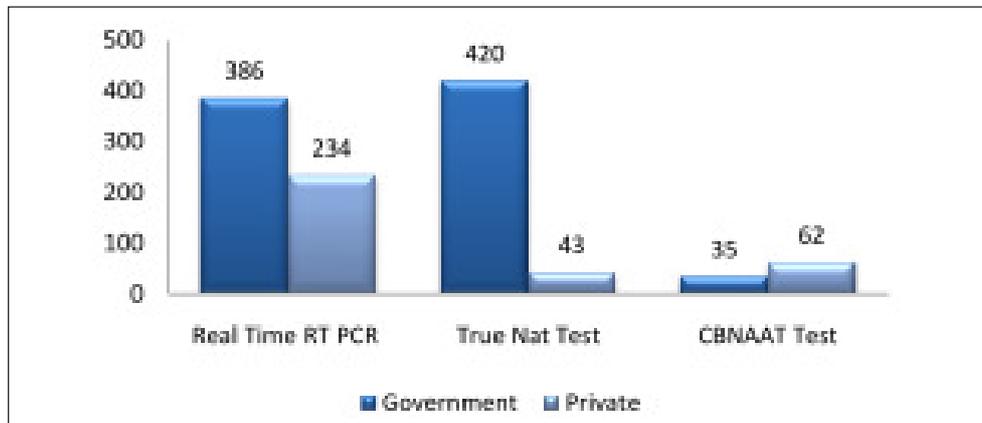
Health infrastructure always plays a vital role in the healthcare sector, especially in dealing with a situation like the current pandemic. For now, it is considered to be the biggest challenge to the Indian health sector. Current data on number of beds shows a minimal picture with 5.5 beds per 10,000 people⁶ as against the Universal Health Coverage (UHC) guidelines of 2 per 1000 by 2022. In terms of availability of physicians, there are 7 physicians per 10,000 people⁷ against the WHO guidelines of 1 to 1000, which shows the inadequacy of health infrastructure to face any crisis. Furthermore, ineffective healthcare delivery system, inadequacy of health workforce, shortage of fund allocations in rural areas, preventive services, and medical supplies in public sector turned ineffective to match the requirement and urgency of India's population. Only 20 per cent of the population has health insurance coverage and 68 per cent (approx) of the population has no means to avail essential medicines. The availability of free medicines has also declined from 31.2 per cent to 8.9 per cent for inpatient care and from 17.8 per cent to 5.9 per cent for outpatient care in the public health sector (Nabar et al., 2020).

As it is mentioned earlier that 3 types of test are conducted in various government and private medical institutes with total 620 numbers of laboratories used for real time RT PCR test. The 62 per cent of tests are conducted in government medical institutes with the rest 38 per cent in private medical institutes. In case of other test, the True Nat Tests are done in the assigned 463 laboratories, where 91 per cent tests are done in government institute laboratories and 9 per cent tests are done in private institute laboratories. The third test, named CBNAAT test, is conducted in a total of 97 laboratories, where 36 per cent of the tests are conducted in government institute and rest 64 per cent in private institute (Figure 3).

⁶ <https://www.brookings.edu/blog/up-front/2020/03/24/is-indias-health-infrastructure-equipped-to-handle-an-epidemic/>

⁷ https://www.business-standard.com/article/pti-stories/doctor-patient-ratio-in-india-less-than-who-prescribed-norm-of-1-1000-govt-119111901421_1.html

Figure 3: Number of Laboratories Available for Different Tests in Medical Institutes for COVID-19 in India



Source: ICMR Report on COVID-Testing Lab

Table 2 shows allocation of health infrastructure in different districts of the state to meet the COVID-19 situation in terms of allotment of number of beds, isolation beds, beds for confirmed and suspected cases, ICU and oxygen supported beds and number of ventilators as on May 9, 2020. It is found that there is highly disproportionate health infrastructure in Khurda district. However, with the prevailing situation and day to day increase in the number of cases, the present allocation shows shortage or inadequacy in its orientation. Thus, it does not give any positive reflection or sign to fight against COVID-19. It shows an inadequacy in the supply side of health care to meet the requirements of the demand side in healthcare.

Table 2: Health Infrastructure Available in COVID Health Centre (as on May 9, 2020)

SL. No.	Districts	Total bed	Isolation beds	Isolation beds for confirmed cases	Isolation beds for suspected	ICU beds	No. of ventilators	Oxygen supported beds
1	Angul	150	144	144	0	6	4	36
2	Balasore	100	90	50	40	10	5	50
3	Baragarh	100	92	82	10	8	5	36
4	Bhadrak	120	116	50	66	4	4	20
5	Balangir	200	190	20	170	10	10	20
6	Boudh	120	120	60	60	0	0	85
7	Cuttack	150	116	66	50	34	8	116

8	Deogarh	206	206	48	158	0	0	92
9	Dhenkanal	100	94	56	38	6	3	94
10	Gajapati	110	100	40	60	10	0	40
11	Ganjam	200	180	120	60	20	20	180
12	Jagatsingpur	50	45	20	25	5	3	20
13	Jajpur	150	140	40	100	10	3	100
14	Jharsuguda	100	100	20	80	10	10	100
15	Kalahandi	200	190	120	70	6	6	66
16	Kandhamal	150	140	25	115	10	1	10
17	Kendrapada	110	100	100	0	10	5	0
18	Keonjhar	50	40	10	30	10	2	40
19	Khurda	1000	930	175	755	70	65	930
20	Koraput	150	147	50	97	3	3	50
21	Malkangiri	100	96	39	57	4	6	70
22	Mayurbhanj	200	190	190	0	10	4	13
23	Nawarangpur	200	200	160	40	16	1	200
24	Nayagarh	200	190	40	150	10	5	80
25	Nuapada	200	195	117	43	5	5	160
26	Puri	100	100	30	70	0	0	25
27	Rayagada	100	100	20	80	0	0	100
28	Sambalpur	180	180	100	80	20	20	180
29	Subarnapur	200	200	154	46	0	0	50
30	Sundergarh	400	375	150	225	25	23	245
	Total	5396	5106	2296	2775	332	221	3208

Source: List-COVID-facilities-State-Odisha

Healthcare Financing

Healthcare system consists of several dimensions such as physical, human and financial resources. Physical and human resources would not be possible without financial resources. Health expenditure is now considered as an immediate requirement to strengthen the health sector and health-related activities during this pandemic. Investment on health is required to purchase medical equipment, medicines, maintenance of hospitals, health insurance, schemes, programmes, hiring of health workforce and also to strengthen other health benefits. According to the World Bank⁸, almost 70 per cent of the health

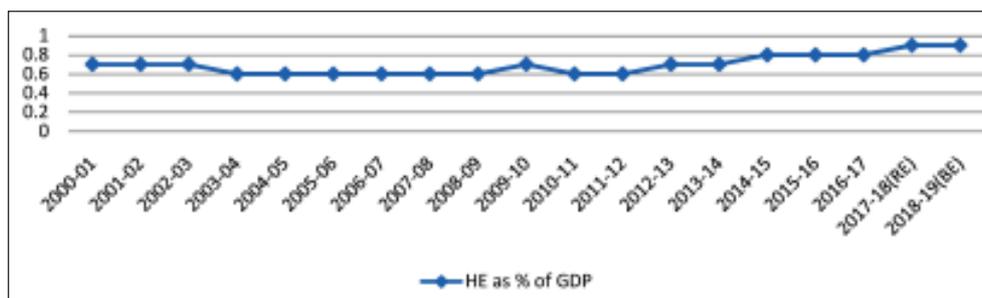
⁸ <https://www.worldbank.org/en/news/feature/2012/10/11/government-sponsored-health-insurance-in-india-are-you-covered>.

expenditure was borne by the households in India out of their pockets. In Odisha, the dependence on public healthcare system is the highest. However, there is lack of availability of health infrastructure, staff and doctors, which is a major problem of the state (Devi, 2011).

Recently, the Government of India had declared a package of Rs.15,000 crore to be allocated to the health sector in its COVID-19 incentive package. Out of this, 51.8 per cent is to be allocated now, with the rest to be kept for the medium-term over the next one to four years. Out of 51.8 per cent, 39 per cent (approx.) has been assigned to states and union territories to reinforce healthcare systems and the rest is used in the process of diagnostics, enhancing laboratories and purchasing equipment (Mohan, 2020).

The trend of health expenditure as percentage of gross domestic product from 2000-01 to 2018-19 however shows a bleak picture (Figure 4). Over the years, it is found that there is no improvement in health expenditure as percentage of GDP; it remains in a stagnant position. In pre-reform period, it was just 0.6-0.7 per cent; and in post reform period, up to 2013-14, the same 0.6-0.7 per cent of health expenditure was available. In 2014-15, there was slight improvement of percentage with 0.8 per cent continues to 2016-17. This shows the hesitation of the government in spending towards upliftment of the Indian health system.

Figure 4: Health Expenditure (HE) as per cent of GDP in India



Source: National Health Profile, 2019

In Odisha, the lack of fund allocation towards rural areas and health policies turned out to be ineffective in increasing the standard of basic healthcare facilities. There is a declining trend in health expenditure as a percentage of total government spending and GSDP during the NRHM period from 2000-01 to 2005-06 (Table 3). Thereafter, the share of health expenditure in GSDP hovered around one per cent up to 2013-14, which then increased, but remained

below two per cent except during 2016-17. This is well short of the recommended expenditure of 6 per cent of the GDP as estimated by ICSSR and ICMR panel (ICSSR & ICMR, 1981). The financial support provided to the health sector shows insufficiency in meeting the urgency of the current scenario.

Figure 5 illustrates the state-wise share of total health expenditure as percentage of total expenditure and gross state domestic product (GSDP). Total health expenditure includes medical and public health, family welfare and water supply and sanitation in terms of revenue and capital expenditure. It is found that health expenditure was only 4.8 per cent of the total expenditure in Odisha, which was only 1.19 per cent of GSDP. The spending patterns demarcate the health sector to create or allocate health infrastructure and other medical supplies in an adequate manner. Mizoram has the highest percentage of health expenditure to the total expenditure with 8.34 per cent, which has contributed 4.2 per cent of GSDP, followed by Nagaland with 2.97 per cent share of health expenditure to GSDP. Low health public spending enhances the out-of-pocket expenses at a rapid pace. Mostly, rural people always depend on public healthcare facilities for their treatment.

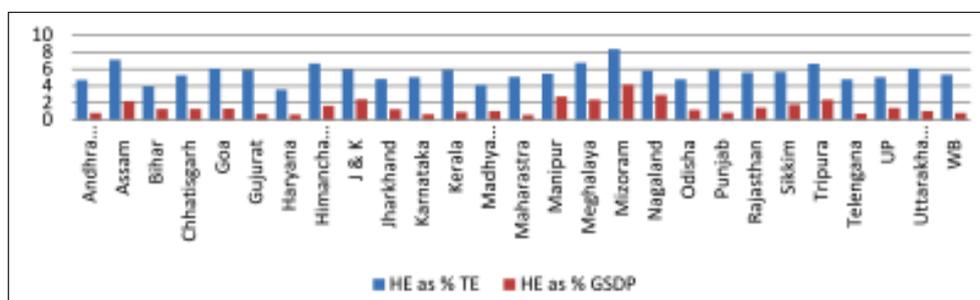
Table 3: Trends in Health Expenditure in Odisha

Year	Health Expenditure (Rs. Crore)			Share of Health Expenditure (%)	
	Revenue Expenditure	Capital Expenditure	Total	In Total Expenditure	In GSDP
2000-01	600	81	680	7.71	1.40
2001-02	598	103	701	7.09	1.36
2002-03	663	83	746	7.45	1.36
2003-04	670	88	758	6.98	1.15
2004-05	856	50	906	7.33	1.17
2005-06	764	87	850	6.25	1.00
2006-07	833	160	993	6.30	0.98
2007-08	1080	461	1541	8.70	1.19
2008-09	1192	728	1920	9.06	1.29
2009-10	1493	359	1852	7.32	1.14
2010-11	1756	91	1848	6.29	0.94
2011-12	1888	125	2013	5.81	0.87

2012-13	2280	261	2541	6.64	0.97
2013-14	2533	707	3240	7.10	1.09
2014-15	3826	949	4774	9.34	1.52
2015-16	5144	1203	6347	10.79	1.93
2016-17	6389	1571	7960	12.24	2.02
2017-18	5910	2354	8264	11.50	1.90

Source: Finance accounts (different years) and Odisha Economic Survey (various issues).

Figure 5: State-wise Share of Health Expenditure as Percentage of Total Expenditure (TE) & GSDP in 2015-16 (per cent)



Source: National Health Profile, 2019

Role of Healthcare Providers

The role of healthcare providers is utmost important in healthcare system. The efficiency of healthcare system depends on the functioning of the healthcare providers. The current pandemic has taught us that no system can be called as advanced or developed to curb any such crisis in its initial phase. Various efforts have been made by both the central and the state governments in providing services to victims of the virus. The government of Odisha has taken several initiatives in a timely manner to check the spread of the virus like barring entry and exit of population from the containment area, closure of schools, offices, cinema halls, etc. In case of the health sector, various measures have also been taken such as initiating active and passive surveillance of COVID-19, isolation in the hospitals of all suspected cases and their contacts, designating government buildings as quarantine centres. Further, social distancing is maintained strictly to prevent the outbreak of COVID-19.

As no vaccine has been discovered yet, the work of the service provider has become very important. The service by the frontline healthcare providers

in the state during this current pandemic has been far beyond excellence. The Government of Odisha has taken timebound initiatives to curb the spread of the virus with the help of the health workforce. Regional Medical Research Centre (RMRC) under the state government has been actively conducting surveillance throughout the state to monitor active cases on a daily basis. The government has also declared several government and private hospitals as COVID hospitals. These hospitals render services to the corona patients by providing necessary treatment as per the guidelines of Indian Council of Medical Research (ICMR). Mixed response has been traced towards the treatment of the patient, whether in terms of service or cost of treatment.

Insurance Viability towards COVID-19

- i. In case of medical emergencies, health insurance can be the best option to mitigate the out-of-pocket expenditure. But health insurance policies are subjected to several conditions to avoid their financial risk. Pre-existing medical diseases is one such condition for the denial of insurance coverage⁹. Generally, pre-symptomatic to any disease is excluded from availing the benefits of medi-claim policy, but the situation is totally different for COVID-19. The pandemic due to the novel coronavirus has given rise to cases of fear, doubt and anxiety about the future. It has affected people, suffering or not from the virus, physically and financially. Financial constraint due to lockdown or joblessness has put the health-seeking behaviour of the people into further vulnerability. The health insurance scheme can help in safeguarding against this financial burden of seeking treatment for COVID-19 and hospitalisation. Various insurance providers in the country are providing health insurance with suitable policies adhering to the subjected guidelines¹⁰. The features associated with insurance cover for Covid-19 are as follows: No exclusion in health policies for COVID-19 or any other pandemics
- ii. Cover diagnostic test, pre and post hospitalisation expenses subjected to time periods and OPD and IPD expenses.
- iii. Also covers the experimental drugs given for inpatient treatment, as no vaccine or medicines have been discovered for COVID-19.

Covid-19 has no definite protocol and standard treatment cost, creating confusion to both the insurance providers and the insurance seeker. To allay all

those fears and to bringing clarity, the General Insurance Council, in discussion with expert medical professionals, has brought out scheduled rates for COVID-19 claim. These scheduled rates are suggested by the NITI AYOOG panel. Insurance companies have to follow the treatment protocols prescribed by ICMR. The billing pattern depends on the type of stay and treatment during hospitalisation, city or district of the hospital availed and the type of hospital. The council reviewed the prescribed charges every month to ensure prevalence of reasonable charges and also to prevent hardship to the insurance companies. A healthy life can be maintained through timely and proper diagnosis of the health, which often end up with higher out-of-pocket expenditure. This in turn increases the financial burden of a person. The current pandemic-like situation makes the condition further vulnerable. Thus, health insurance can play a major role in combating the aforesaid financial burden, especially in the time of such crises.

Overview of Health Policies

There have been significant changes in the health scenario over the past two decades. The immunisation programme has been doing well, despite great difficulty in making potent vaccines available in urban-rural inaccessible pockets. Polio has been almost eradicated. Orissa still continues to be a major contributor in the national figure of deaths due to malaria. Diarrheal diseases are still rampant, but there is a significant reduction in the deaths due to diarrhea. Tuberculosis (TB) detection and treatment has shown promising trends in the last few years (MOHFW). There are other factors outside the realm of health department that are essential for health service improvement like improved literacy levels in the state; better access to safe drinking water (92 per cent); better road communication linking villages to blocks and towns with better access to health services; increased awareness of general public about health issues, largely due to mass media like radio and television; extensive network of Anganwadicentres under the Integrated Child Development Services (ICDS) programme, with service provision for pregnant and lactating mothers, pre-school children, including growth monitoring and supplementary feeding for the children as required. At the grass-roots level, the health and Anganwadi workers work well together, especially in the western and tribal districts, where the ICDS programme has been in place for several years. In 1998, the secretaries of both departments issued a joint letter regarding the concept of a 'fixed health day', which was a major step towards better collaboration between the departments (Planning Commission). This envisaged that the ANM (Auxiliary

Nurse and Midwives) in one area would provide comprehensive services at each of the AWCs (Anganwadicentres) in their area once a month. These factors are the need for a holistic development in the health sector (MOHFW). The Government of Odisha has also implemented various programmes to fulfill various objectives required for better health in the state.

5. Challenges and Way Forward in the Health Sector

Health is a major concern for economic development. An ideal healthcare system may be defined as the system that can be accessible, affordable, and accountable in both quality and effectiveness. Health care has several dimensions such as physical, human and financial resources. The health status in rural and urban areas varies depending on factors like socioeconomic status of people, cultural values, ignorance, literacy, etc. Problem of geographical location rather than lack of physicians are the major issue in access to health workers in remote and rural health areas. There is lack of adequate number of doctors in Odisha with the doctor-population ratio in the public health care system of 1:13014 (2015) against the WHO guidelines of 1:1000. The low public health spending on health care remained around 1 per cent of the state gross domestic product (Rout, 2010). Low public health spending leads to out-of-pocket expenditure, which deteriorates the growth of the economy. The public health system is facing several constraints due to inadequate doctors, staff and physical infrastructure (Devi, 2011).

Health is a prime sector and need to be strengthened for future preparedness to tackle any situation in a proper and effective way. For that to happen, government spending on health care must go up. The infrastructure should be structured and firm enough for any circumstances like this pandemic. Improvement in healthcare infrastructure and facilities and ease of access is the only way to fight against diseases. The health work force should be well-trained and well-versed in health practice and management. There is also a need to fortify the R & D sector and to be provided with extra capital from the GDP. Government must focus on the development of R & D and its impoverishment as this pandemic has taught us the importance of this sector, in particular. This period has made us aware of extra preparedness in the future, in every sphere that leads to human protection and development. Thus, it can be said that the health sector of India is not in a good condition and needs to be formalised through better infrastructure, equipment, medical supplies and medication. This may also be possible through indigenous development of

medical equipment. As our government has implemented 'Make in India' scheme, this mechanism should be structured to encourage indigenous products. This will empower us not to depend or wait for any foreign assistance, instead manufacturing this type of equipment will enable us to be prepared for any type of situation in future. Lastly, the medical curriculum needs to be updated and practical to the changing world. As we are living in a competitive world and the concept of bio-warfare is not new, with lot of scientific mutation taking place in the genome of millions viruses present in the environment whether naturally or artificially, this calls for certain preparedness for a healthy world.

6. Conclusion

In life, we come across lot of situations from low and high, bad to good and so on. Still, we move ahead in hope of a better life, leaving behind all the negativity. The year 2020 is one such in the life of almost all the people of the globe, which everyone wants to forget as a bad dream. The virus had been first traced from Wuhan city of China in December 2019 and had reached almost all the countries in the world by early 2020. In India, the first confirmed case of the virus was reported on January 30, 2020 in Kerala. The affected had a travel history from Wuhan, China. Since then, it has spread all over India within a month. The first death due to the deadly virus was reported from Karnataka in March 12, 2020. In case of Odisha, the first confirmed case was reported on March 16 of a man from Bhubaneswar who had returned from Italy and had travelled by train from Delhi to Bhubaneswar to avoid airport screening. The virus is non-discriminative as it spreads between developed and developing countries, urban and rural sectors and in both rich and poor segments of the society equally. During the pandemic, the state administration and the health department of Odisha have faced various challenges. This includes dealing with social stigma and awareness among the people about COVID-19, procuring basic necessities like PPEs and diagnostic kits, training of paramedical staff regarding the virus, disposal of dead bodies of corona patients and licensing regulations for the small hospital to make them available for COVID-19 treatment. Despite all these hurdles, timely lockdown and strict action taken by the state administration has resulted in checking the spread of the virus to an extent.

The government is focusing on curative care for the virus, whereas there is an urgent need for proper coordination between all the departments in the health sector to tackle this emergency (Mitra, 2020). The healthcare system is not

adequate, especially in the rural segment of the country. Also, owing to the lack of understanding of the pathogen, the strategy thus adopted by the government does not seem to be innovative. It appears to be similar to the 18th century strategy of John Haygarth called as the rules of prevention (Boylston & Haygarth, 2014), adopted for the eradication of smallpox. The strategy was based on three principles, viz. identifying every case, isolate the infected and immunize all their contacts. To attain the goal of universal health coverage, each and every segment of the healthcare sector needs to be structured and improved. A structured health system enables the government to be prepared for any such hazards in the future. Health financing has been a major issue for discussion in the forum after every budget of both the centre and the state governments. The sector had always been a victim of negligence. The current pandemic has awakened us regarding the importance of research and development in the healthcare sector along with the need for an improved and structured health system.

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Rural Economy in Odisha Can Be Revived by the Handloom Industry

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Abstract

The Coronavirus pandemic and lockdown has severely affected almost all the sectors of the economy and MSMEs are no exception to it. The handloom industry under MSMEs plays an important role for employment generation in the rural economy of Odisha. It has the potential to absorb the migrant workers along with unemployed rural folk having less skill. The handloom workers of Odisha are well known for their excellence in innovative designs and unique colour combinations on the woven fabric. However, they are struggling for a sustainable livelihood, which has been worsened by the on-going pandemic and lockdown. In this context, the current study is an attempt to look into the effect of pandemic and lockdown on the handloom sector of Odisha, the key problems faced by the handloom workers and to suggest appropriate policies for the sustainability of the handloom industry, which will help to boost the rural economy in Odisha. With the help of both primary and secondary data, it is found that the handloom workers are directly affected by the lockdown with complete livelihood loss. They are suffering from acute poverty, malnutrition, and hence indebtedness. Obsolete technology along with unorganised production systems and lack of government support are making

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their condition pathetic. Given this ambiance, government incentives are found to be the sole intervention to re-energise the handloom sector, which will help to rebuild the rural economy.

Keywords: Lockdown, Pandemic, Rural Economy, MSMEs, Handloom Industry

1. Introduction

The outbreak of the COVID-19 pandemic has brought the world economy to a grinding halt and India is no exception to it. Except for some essential goods and services, the production, sale and consumption of all other commodities have been affected severely. The pandemic caused by the novel coronavirus has hit hard the economy of Odisha as the economic activities abruptly came to a standstill. The nationwide lockdown imposed to terminate the spread of pandemic has resulted in acute economic fallout in terms of enormous loss in employment, income, production and distribution. Almost all the sectors of the economy are facing the brunt of this on-going economic crisis and micro, small & medium enterprises (MSMEs) are one among them. The MSMEs have been one of the worst affected businesses due to the disruption caused by the pandemic. There are thousands of medium, small and micro enterprises in Odisha, but the micro enterprises constitute more than 97 per cent (OEA, 2020) and the handloom sector is one of them. The handloom sector comes under micro enterprises as the investment limit and turnover is below Rs. one crore and Rs. five crore, respectively as per the new definition of MSME classifications.

The handloom industry under the micro industries is important to the economy of Odisha in terms of employment generation, output and export. Being the second highest employer in the informal sector, it has the potential to absorb the unskilled and semiskilled masses in the rural non-farm sector. Handloom weaving is an ancient art and craft, which represents a distinctive feature of the cultural heritage of Odisha. It is a rural, family-based activity, which has been sustained by transfer of skill from one generation to another. The handloom products of Odisha are highly acknowledged all over the world because of unique and exquisite designs, natural motifs and excellent colour combinations.

The handloom industry of Odisha is known for labour intensive, low-cost capital use, negligible use of power, being eco-friendly, openness to innovations and flexibility to market requirements. Be it the Sambalpuri, Pasapali tie and dye saree of Bargarh and Sambalpur region or the Khandua/Maniabandha of Cuttack or the famous silk saree of Subarnapur and Berhampur or the Kotpad of Koraput, each region of Odisha has its unique identity of handloom products, which are popular worldwide. The handloom map of Odisha is presented below.



Source: Department of Handloom, Textile and Handicraft, Govt. of Odisha

As per the 4th national handloom census 2019-20, there are 1.18 lakh handloom workers in Odisha; among them, more than 97 per cent are in the rural areas. They are spread over in 63,223 weaver households with 47,625 looms in the state. From among the total handloom workers, 6.75 per cent are SCs, 12.55 per cent are STs, 65.78 per cent are OBCs and the rest (14.92 %) belong to other social categories. The handloom industry of Odisha is dominated by

male handloom workers constituting 51.06 per cent of the total workforce. In the fiscal year 2016-17, Odisha exported handloom products to 17 countries worth Rs. 235.16 crore (Odisha Economic Survey 2019-20).

The handloom weavers of Odisha are versatile, having unique skills in weaving, which get reflected in the magnificent designs woven in the fabrics along with distinct colour combinations. Though the handloom products of Odisha are of high demand in the local as well as in the overseas market, the weavers hardly get sufficient remuneration from it, which poses serious threats for the survival of the handloom weavers. The handloom sector of Odisha has been neglected since its inception, which makes the condition of poor handloom workers miserable. The coronavirus pandemic and the ongoing lockdown has made their livelihood miserable without government support. Due to the unavailability of raw materials, inflated price of yarn and dyes and closure of markets, their economic condition has been worsening. However, if proper attention is given to this sector, it has the potential to absorb the unskilled and semi-skilled migrant labour force in rural as well as in the urban areas with adequate income generation. In this context, the present study is an attempt to identify the major problems faced by handloom workers and the sector as a whole and to suggest appropriate policy measures to nurture the industry, which will be helpful to revive the economy by providing gainful employment and increasing effective demand.

2. Literature Review

There are two types of relations of production in handloom weaving namely the independent weavers who sell their finished products and the dependent weavers who sell their labour power. The independent weavers are transforming into dependent weavers because of the slowly growing and sharply fluctuating market for cotton cloth added by competition from the mill sector (Roy, 1989). Meher R. (1995) focused his study on finding out the problems and prospects of handloom industry and the living conditions of weavers in Orissa. According to him, the weavers live in low standard houses with inhospitable working conditions. With high working hours, every member of the household has to participate in the weaving work and due to the low level of income; the weavers are indebted to a great extent. Roy T. (2002) talked about innovation in the three processes of production of cloth, i.e. processing of yarn before weaving, weaving and processing of cloth after weaving. Innovation within the handloom

industry will increase efficiency of the workers and will make the products more attractive. Technological changes refer to changes within the handloom industry rather than to compete with the power looms.

The growth performance of cooperatives in Andhra Pradesh determines the growth of other institutions like master weaver and independent weavers. The performance of the apex society, i.e. APCO is solely responsible for increase in the number of idle members and idle looms in cooperatives due to management problems (Mahendra Dev et al., 2008). According to Tripathy G.S. (2009), lack of finance, illiteracy among the weavers, procurement of raw materials, product development, etc. along with quality control and cost control are the major problems faced by the decentralised handloom industry in Odisha. The major constraints for sustainable development of the handloom industry are supply of yarn, marketing and sales networks. There are three strategies to cope with the competitive forces namely overall cost leadership, differentiation and focus, from which differentiation is suggested for the handloom industry in Jaipur district of Rajasthan (Goswami and Jain, 2014). The problems of handloom weavers in Dharmavaram town are related to raw materials, procurement of labour, utilisation of machinery, production system and marketing, which can be overcome by incessant interference of the government by introducing modern equipment, marketing facilities, support for getting raw materials, increased wages and quick loans (Subba Rao et al., 2014).

3. Objectives

Given this background and theoretical observations, the objectives of the present study are as follows:

1. To find out how the handloom industry in Odisha has been affected by the COVID-19 pandemic and lockdown
2. To identify major problems faced by the handloom workers and the sector as a whole in Odisha
3. To recommend appropriate policies to revive the economy of Odisha by revamping the handloom industry

4. Data Sources and Methodology

The current study is based on both primary and secondary data. Reports and articles are taken from print and electronic media to examine the effects of pandemic and lockdown on the handloom sector of Odisha. Information on

major aspects like income, production, marketing, technology, government schemes, etc. for the handloom workers of Odisha is taken from the reports of National Handloom Census 2019-20 and 2009-10, Annual Reports of Ministry of Textiles- Government of India and many journal articles. Evidence from primary data (80 weaver households) collected in 2018 from two districts of Odisha, i.e. Bargarh and Subarnapur has been used to cross-check the government data. Simple statistical tools like tabulation, representation, average and T-test for hypothesis testing have been used to analyse the data.

5. Impact of COVID-19 and Lockdown on the Handloom Sector of Odisha

Coronavirus outbreak has severely affected the rural economy in Odisha. Demonetisation, then the transition to GST and now the pandemic has crippled the handloom-based village economy, leaving weavers and allied workers in the lurch. The workers are already living in poverty and managing with limited resources. Lockdown has badly hit their livelihoods, many fearing starvation if the situation continues. According to *Orissa Post* “hit hard by the lockdown, the weavers of Gopalpur, Nuapatna and Jagatsinghpur who earn their living through handloom work have been sitting idle. Before recovering from super cyclone in May 2019, they have been affected by lockdown which has deepened their financial crisis.”

“Many weavers of Bargarh district depend on the open markets for sale of their handloom products. But they have been unable to sell the fabrics owing to lockdown now. More than 12000 families of this region depend on weaving activities to earn their livelihood which has been impacted badly as the markets are shut” reported *The Times of India*. Coronavirus and lockdown led to the unavailability of raw materials, which forced the handloom weavers to sit idle. Sudden closure of retail shops stalled the orders of handloom products from the weavers. The crisis created by lockdown, markets being shut and the resulting decline in demand and sales of handloom products is an unprecedented situation for the sector. The biggest challenge for small weavers and designers during lockdown has been the lack of demand.

“Sambalpuri fabrics are mainly sold during marriage seasons and family functions. But due to the pandemic and lockdown, several marriages and other events were cancelled affecting the sale of Sambalpuri handloom products” told H.K Mishra, marketing officer of the handloom co-operative society to

The Times of India. “The handloom sector has experienced sudden stalling of orders as the retailers themselves are closed due to the worldwide lockdown and no signs of immediate recovery as the crisis unfold. Cash flow has stopped, with buyers unable to make payments and no sales happening at all. Markets of the summer season for sell of cotton handloom will be entirely lost by the time things get back to normal. This will create a liquidity crunch and severely impact their ability to invest in yarns for creating new products for festive seasons.” reported the *Hindustan Times*.

According to *Dharitri* (Odia daily newspaper) “the Coronavirus lockdown has completely shut the production and sale of handloom products leading to pathetic economic condition of the weaving communities. The government schemes for the handloom sector have failed to reach to the needy workers leaving them in uncertainty and frustration”. It also revealed that “more than 15000 weavers and ikat designers in Bijepur area are directly affected by the lockdown. Neither they are able to buy raw materials nor are they able to sell their finished products. This has caused severe financial crunch to the handloom workers. The governments have announced corona relief packages for the industrial workers, artists and many others but no assistance for the handloom workers. Being the age old art and profession, the Sambalpuri weavers are famous in the country but still neglected by the government. So, immediate policy intervention is demanded by the workers.”

6. Status of the Handloom Workers and Major Problems Faced by Them

The average household size among the handloom workers in Odisha is 3.11, which is lower than the national average of 3.88. Most of the handloom workers are staying in kuccha houses (50.16 %), followed by pucca houses (26.38 %) and semi-pucca houses (23.46 %) (National Handloom Census, 2019-20). The handloom sector of Odisha has been engulfed by several difficulties since its inception, which makes the economic condition of the handloom workers pitiable. The major aspects upon which the handloom industry sustains are the income level of the workers, acuteness of poverty and health standard, production and marketing strategies, technological development, government support, etc. These factors along with the problems involved in them are discussed below.

6.1. Income Level and Acuteness of Poverty

The first and foremost thing necessary for the survival of a human being is money, by spending which he arranges the basic necessities. Hence, having a reasonable amount of income for the handloom workers is most important for their survival. Low level of income leads to poverty, hunger, malnutrition and indebtedness and hence decreases productivity. Table 1 shows the monthly income of the handloom worker households from handloom-related activities in Odisha.

Table 1: Distribution of households by the level of income per month

Level of Income	Number of Households	Percentage Share
Up to 5000	56,752	89.77
5001-10000	5,886	9.3
10001-15000	539	0.85
15001-20000	37	0.06
20001-25000	06	0.01
25001-50000	03	0.005
50001-100000	00	0.00
Above 100000	00	0.00
Total	63,223	100.0

Source- Handloom Census, 2019-20

From the above table, it is observed that most of the handloom worker households earn up to Rs. 5000 per month from handloom-related activities, which indicates that the households are earning less than Rs. 166 per day. This is much lower than the national per capita minimum wage level of Rs. 178 per day (tradingeconomics.com, Ministry of Labour and Employment). In total, around 99 per cent households earn less than Rs. 10,000 per month. This shows the dire economic conditions and prevalence of poverty among the handloom workers. According to Handloom Census report, from among the total handloom workers, 9200 have an Antodaya card, which means that around 15 per cent of the weaver households are the poorest of the poor. But, surprisingly, fewer numbers of households are indebted, which constitutes 5.53 per cent of the total handloom worker households.

Evidence from the primary data reveals that the handloom workers are living in a miserable condition and their working environment is inhospitable and ill ventilated, which is absolutely unhygienic. Most of the handloom worker households earn a monthly income of less than Rs. 10,000. A reasonable number of households earn Rs. 10,000 to Rs. 20,000 per month and few of them earn more than Rs. 20,000. More than 90 per cent of the households are under below poverty line with eight per cent having Antodaya cards and all the weaver households were indebted at the time of the study, which counters the government data. It can be concluded from the above observation that the handloom workers are suffering from acute poverty, hunger, malnutrition with deplorable living condition and pitiable working environment, which needs to be addressed at the earliest.

6.2. Technological Development

Technological development in any firm or industry is necessary to increase the productivity of the workers and hence their income. Technological development among the handloom workers can be measured by looking into the type of looms being used by them. Different types of looms used by the handloom workers in Odisha are presented in table 2. In Odisha, most of the weavers have their own loom and few use rented looms. It is seen from table 2 that greater numbers of weavers are having pit loom with dobby/jacquard and other pit looms followed by frame looms with dobby/jacquard and other frame looms. No one uses loin looms in Odisha and very few use other types of looms. So, the weavers are still following the conventional method, i.e. weaving in pit looms. This shows the low level of technological development due to which the weavers are not productive enough to earn a good income.

Table 2: Distribution of Weaver Households by Types of Looms

Types of Loom	Number of Households	Percentage Share
Pit Loom with Dobby/ Jacquard; Other Pit Looms	30,752	64.57
Frame Loom with Dobby/ Jacquard; Other Frame Looms	16,800	35.27
Loin Looms	0000	0.00
Other Looms	73	0.16
Total	47,625	100.0

Source: Handloom Census, 2019-20

Primary data reveals that all the handloom weavers are having their own loom. Most of them have pit loom with doobby, followed by pit loom with jacquard and plain pit loom, which are traditional types. This supports the government data of low technological development among the handloom workers, which is a reason for their backwardness.

6.3. Production and Marketing

Broadly, there are three systems of production under which all the handloom workers are organised. They are independent weavers, master weaver system, and cooperative folds (institutions). The marketing strategies of the weavers depend on the production systems under which they are working. Independent weavers purchase, produce and market the final product on their own. Masterweavers supply raw material to other weavers, who in turn carry out the production and then deliver the final product to the former at a predetermined price/wage. On the other hand, in the case of weavers' cooperative societies, they supply the design and input to the weaver-members to carry out production. Finally, cooperatives market the produce (Bhowmik, 2019). From among the three systems of production, working under master weavers is found to be more exploitative in nature (Meher, 1995). The distribution of handloom workers under different production systems in Odisha is given in table 3.

It shows that the highest number of handloom workers is working independently, whereas the lowest number of workers is working in institutions, which include cooperative societies, Khadi & Village Industries Commission and State Handloom Development Corporation. Around one-fifth of the total handloom workers are working under master weaver system, which is most exploitative in nature. Though most of the handloom workers are independent, their economic condition is not good, which can be observed from table 1. Most of the weavers in Odisha are producing sarees followed by Dhoti, Sarong, Lungi, Angavastram and Towel, Napkin, and Gamcha. The absence of product diversification may be the reason for their low level of income due to.

Table 3: Distribution of handloom workers under different production systems

Production System	Number of Workers	Percentage Share
Independent	81,629	69.27
Under Master Weavers	24,119	20.46
Under Institutions	12,088	10.27
Total	1,17,836	100.0

Source- Handloom Census, 2019-20

As per the 4th Handloom Census, the major selling destinations of their handloom products are local markets followed by the master weaver, cooperative society and others. However, primary data shows that most of the handloom workers are working under master weavers followed by cooperative societies and few workers are independent. In the study area also, saree is woven by almost all the weavers and markets for their finished products are the local markets followed by government agencies and others. It is evident from the field survey that weavers working under cooperative societies are earning the highest income compared to the other two systems of production, i.e. independent weavers and master weaver systems. There is a significant difference in the income of the weavers working under cooperative societies and master weavers. This finding is proven by testing a hypothesis through one independent sample test. The hypothesis considered here is as follows.

H_0 - Weavers working under WCS and MW are earning the same monthly income.

The results are given in the following tables.

Table 4: Group Statistics

	Production System	N	Mean	Std. Deviation	Std. Error Mean
Estimated Total Income per Month	At Home under MW	47	8765.96	4294.196	626.373
		22	12570.45	7367.846	1570.830
	At Home under WCS				

Source: Authors' own calculations from primary data, 2018

Table 4 shows that the mean level of income earned by the weavers in both the systems is not the same and the weavers working under a weaver's cooperative societies are earning high income compared to the master weaver systems. Table 5 tests the null hypothesis that the wages of the weavers under both production systems are the same using the independent sample t-test. It is revealed that we can reject the null hypothesis (statistically significant t score at 95% CI) and conclude that the weavers working under Weaver's Cooperative Society (WCS) are getting high income compared to those working under master weavers (MWs). This concludes that WCS is the better mode of production than the master weaver system, where the former is most beneficial for the weavers than the latter.

Table 5: Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
Estimated Total Income per Month	Equal variances assumed	8.806	.004	-2.704	67	.009	-3804.497	1407.215	-6613.311	-995.683
	Equal variances not assumed			-2.250	27.887	.033	-3804.497	1691.109	-7269.208	-339.786

Source: Authors' own calculations from primary data, 2018

6.4. Government Assistance for the Handloom Sector

Government assistance and protection are necessary for the handloom workers and the sector as a whole to save them from exploitation and competition from the power loom and mill sector. The report of Handloom Census 2019-20 reveals that at the national level, more than 65 per cent of the handloom workers are not aware of the existing government schemes including cluster development programme and training facilities available for them. A very small section of the weaver households who are aware of those individual schemes has benefitted from the same. Out of many government schemes for the handloom workers, overall awareness of Weavers Health Insurance Schemes (WHIS) among the weavers is lowest, i.e. 2.6 per cent only and of those who are aware, only one in three have been covered by the scheme. The insurance scheme penetration in Odisha stands at 10.5 per cent only.

Primary data shows that government benefits are availed by all the sample weaver households but to a negligible extent. Most of those benefits are limited to some instruments needed during the production process that too of low quality. Fewer workers had access to training facilities and a few of them benefitted from the working shed cum housing facilities and bank loan. The budgetary allocation in Odisha for the handloom, textiles & handicraft

department was Rs. 182.82 crore in 2019-20, (Budget 2019-20). Finance Department which has been increased to Rs. 199.62 crore in 2020-21 (Budget 2020-21). Finance Department. However, there is no specific and significant allocation for the handloom industry because of which the industry is in a dire condition. The central government announced a Corona relief package of Rs. 3 lakh crore in May 2020 to support the MSME sector, but there is no specific announcement for the handloom sector. This shows the utter negligence of the government towards this sector which is the second largest employer in the informal sector. So, lack of proper government assistance poses a serious threat for the sustainability of handloom workers and the sector as a whole.

7. Findings and Conclusion

The COVID-19 pandemic and lockdown have paralysed the Indian economy and the handloom industry in the MSME sector is badly affected by the same. As the handloom industry comes under micro entrepreneurs, it is labour intensive with small capital investment. It has the potential to revive the rural economy of Odisha by employing the less educated rural masses along with low skilled migrant workers. However, the handloom industry of Odisha has been deluged by several problems, which are a menace for its sustainability. It is observed from the study that the pandemic and lockdown has left the handloom workers without job and money. Unavailability of raw materials and closure of markets forced them to sit idle leading to unprecedented crisis in their livelihood.

The study shows that economic condition of the handloom workers is pathetic. They are facing acute poverty and hence suffering from malnutrition leading to low productivity. The production and marketing techniques of the handloom workers are not organised, the technology used by them are outdated and not upgraded. Lack of awareness about government schemes among the workers and paucity of government support for their welfare along with low budgetary allocation for the handloom sector is making their future uncertain. This demands for an immediate policy intervention by the government to revitalise the sector.

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Is the COVID-19 Crisis Being Handled Effectively in Odisha? Some Empirical Observations

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Abstract:

The COVID-19 pandemic has created havoc globally affecting life and livelihoods like never before. In India and Odisha, more than 6 million people and more than 2 lakh persons, respectively, have already been affected by the virus. Both at the central and state levels, lockdown of the entire economy was imposed to contain the spread of virus, which in April and May, gave rise to the problem of reverse migration. This paper analyses the impact of reverse migration on the spread of COVID-19 cases in the state. Other major issues that have been studied here are the lockdown and unlock period-wise spread of COVID-19 cases, district-wise spread of these cases and arrival of reverse migrants, and factors responsible for the spread of COVID-19. Using the secondary data provided in the state dashboard, the study found that per day detection of positive cases increased with rise in per day testing; and figures for both are significantly high in the unlock period in comparison to lockdown

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period. It is seen that number of positive cases started to increase with the arrival of migrant labour in Odisha. District-wise analysis showed that Khordha, Ganjam, Cuttack, Jajapur, Mayurbhanj, and Balasore are the worst affected districts in terms of positive cases; and not surprisingly, percentage of migrants who arrived in these districts are the maximum among all districts. Results of the multiple regression model suggest that reverse migration is a key factor in spreading the virus in Odisha. Furthermore, literacy rate, population density, and share of urban population are other important factors, which explain the spread of COVID-19 cases in Odisha.

Keywords: COVID-19, Odisha, Reverse Migration, CFR, Literacy Rate, Population Density, and Urban Population

Background of the Study

Spread of Covid-19 has now turned into a new humanitarian crisis for the entire world and India is not an exception to it. The magnitude of this crisis is such that it could contract the Indian economy by about 4.5 per cent (IMF, 2020). Some have even commented that economic downturn brought about by the spread of the virus is worse than the Great Depression (Gopinath, 2020). On March 23, 2020, the Government of India imposed a nationwide lockdown to check the spread of the virus. Only supply of essential commodities was allowed between and within states. The entire nation with both its formal and informal economy had come to a grinding halt. Everything was stopped – industries, businesses, and shops, except those selling/supplying essential items, hotel industry, public & private transport, educational institutions, government & private offices, real estate, etc. The resulting effect of lockdown hit the informal sector hard and the people who were vulnerable the most, i.e. the contract workers, wage labourers, personnel engaged on contract in the service sector, etc. were literally thrown out of their jobs (Afridi et al., 2020). Bereft of a job, with little or no money for food and payment of house rent, and without any clear information as to when the lockdown would end, migrants in large numbers started streaming out of India's major cities in the first week of the lockdown itself. With no public transport available and a ban in place for movement of even personal vehicles, people who panicked started walking back to their places of origin. People were visible in large numbers on the highway and practically on all roads leaving the major cities and towns, trying to walk hundreds of kilometres to reach their homes in small towns and villages across the country (Nayar, 2020). These sad visuals of migrants returning bare

foot to their native places made some to comment that side effects of a nation-wide lockdown in India were not taken on sound footing as the number of deaths due to lockdown itself was not even counted and taken into consideration (Ray & Subramanian, 2020).

Informal sector is the largest employment providing sector in India and it absorbs around 81 per cent of India's workforce. Without any social security measures, the workers in this sector were badly affected. Vast majority of the workers belonging to the informal sector were left jobless and without any source of income in the process of implementing a strict lockdown (Bertrand et al., 2020). Approximately, 400 million workers in India may lose of their livelihood and fall into poverty (ILO, 2020).

Migrant workers hailing from the poorer states of India like Bihar, Uttar Pradesh, Odisha, West Bengal, Assam, and Andhra Pradesh had no option but to take the long and unending journey back home by foot or using other personal modes of transport. Repeated assurances of the Prime Minister and others could not assure the migrant of continuity in service and salary or rent-free accommodation. Provision of free food and free food grains could not allure the migrants to stay put wherever they were working and living. Their meagre savings too soon dried-up and they were left without any money. As days and weeks passed by reality dawned on these migrants. They had no other choice but to take-up the long journey back home by foot, cycle or whatever personal mode of transport they could manage. Sad stories of deaths enroute due to exhaustion, heat-stroke, dehydration, accidents, etc. broke the hearts of viewers glued to the television sets. Grim news stories flashed from across the country on the plight of the migrants and the extreme hardships they faced made one feel whether the decision taken of the lockdown was too abrupt and in haste.

Odisha is one such state, which received large number reverse migrants from other states. For example, by October 01, 2020, a total of 358401, 3227, and 2,06,725 passengers returned to Odisha by train, air, and road, respectively. This is the official number and the unofficial number may be higher than this. It is seen that states with massive influx of migrants have seen a sharper rise in COVID-19 positive cases (Panda & Biswal, 2020). A natural question to ask at this point is that has this huge inflow of migrants caused increased COVID-19 positive cases in Odisha? Another view that is prevalent in India is that lockdown was announced without adequate preparation which affected lives and livelihood of vulnerable sections (Ray & Subramanian, 2020). The main purpose of

nationwide lockdown was to contain the spread of virus, but if detection of positive cases was more in unlock period as compared to lockdown period, then it would mean that any notable achievement was not made despite stopping economic activities, which has a great cost. Therefore, lockdown and unlock period-wise assessment of Odisha's performance with regard to spread of virus and efficiency of COVID-19 testing, and case fatality rate are necessary. Comparative analysis of Odisha with its neighbouring and other major affected states may reveal the state's performance in fighting the spread of COVID-19. After more than 8 months of spread of the virus, finding out the factors responsible for spread of COVID-19 in Odisha is essential. The present study intends to take up the above listed objectives. The study, besides this section, has 3 other sections, namely, definition of variables, data sources, and methods; discussion of results; and conclusion and policy prescriptions.

1. Variables, Data Sources, and Methods

The study is based on secondary data collected from such sources as Odisha state dashboard for COVID-19, Ministry of Health and Family Welfare, and Statistical Abstract of Odisha 2012. The state's performance on fight against COVID-19 vis-à-vis other states is examined on the basis of variables like confirmed cases rate, active cases rate, testings rate, positive rate, recovery rate, and case fatality rate (CFR). Number of confirmed COVID-19 cases per one lakh population is the definition of confirmed cases rate. Active cases rate is defined as the number of currently active COVID-19 cases per lakh population, where active COVID-19 cases are number of positive cases minus number of recovered cases. Testings rate is the number of samples tested per one lakh population. Projected population figures for 2020, on the basis of Census 2011 population data, of India as well as its states are used in the calculation of the above three rates. This data was collected from the Report of the Technical Group on Population Projections, National Commission on Population, Ministry of Health & Family Welfare, Nirman Bhawan, New Delhi. Percentage of positive cases to total testings conducted is nothing but the positive rate. Recovery rate is the percentage of persons fully recovered from COVID-19 infection to total confirmed cases. CFR is the number of deaths per hundred positive cases. District-wise analysis of the spread of COVID-19 is done on the basis of the share of each district in total confirmed and active cases. Share of each district in the total reverse migration to the state by road has been calculated. Ranks to each district have been given on the basis of their share and rates of mentioned variables. Pearson's correlation coefficient

is used to see the correlation between number of reverse migrants received by each district and number of confirmed cases. Spearman's rank correlation is also used to see the correlation between ranks of districts on the basis of their share in total migration and total confirmed cases.

Multiple linear regression model (the equation is given below) has been estimated through OLS method to bring out responsible factors for COVID-19 spread in Odisha and particularly to determine any causal relationship between reverse migration and spread of the virus. The model is calculated using district-wise cross-sectional data.

$$\text{Ln}(CC) = \beta_0 + \beta_1 \text{Ln}(RM) + \beta_2(PD) + \beta_3(LR) + \beta_4(UP)$$

Here, Ln is Natural Log; RM is number of reverse migrants; PD is population density; LR is literacy rate; and UP is share of urban population in total population. District-wise data for CC and RM were collected from state dashboard; and data on PD, LR, and UP were collected from Statistical Abstract of Odisha (2012), which reproduced Census 2011 data on these variables. Results of variance inflation factor (VIF) test and Breusch-Pagan/Cook-Weisberg test did indicate that the estimated model is free from both multicollinearity and heteroskedasticity problems.

2. Discussion of Results

The first COVID-19 case in India, which originated from Wuhan province of China, was reported on January 30, 2020 in Thrissur district of Kerala. After nearly 8 months since the detection of the first case, India is the 2nd ranked country after United States in terms of total COVID-19 cases. India's total number of COVID-19 cases has surpassed 61.43 lakh as on September 29, 2020. The number of active cases, number of recovered cases, and number of deaths due to Covid-19 in the country now stand at 9.46 lakh, 50.98 lakh, and 0.96 lakh, respectively. As per reports issued by the Union Health Ministry, from among the first 50 COVID-19 cases identified as on March 10, 2020, 39 had a foreign travel history, while 11 cases contracted the infection through local transmission, i.e. in India. As per the latest data, the ten worst affected states in India in descending order of total COVID-19 cases are Maharashtra, Andhra Pradesh, Tamil Nadu, Karnataka, Uttar Pradesh, Delhi, West Bengal, Odisha, Kerala, and Chhattisgarh. Initially, the infection was limited to metros and larger cities and towns. However, with the largescale migration of people

from one state to another, cases started spiking-up in smaller towns and rural areas. This is particularly true in case of poorer states and districts, where the migrant population was in large numbers and had returned home after the nationwide lockdown was over on May 31, 2020 and inter-state travel was permitted by Shramik Special trains or private vehicles/buses, but after the issuance of travel permits by the authorities. Currently, Odisha holds 8th rank among the states worst affected by COVID-19 in India. The total number of cases in Odisha has crossed 2 lakhs at the time of writing this paper.

1.1 Assessment of Odisha's Performance on Key Rates of COVID-19

Through Table 1, performance of Odisha on key rates related to COVID-19 vis-à-vis India and other selected states can be assessed. Confirmed cases rate in Odisha is at 485, which is slightly higher than that of India. Neighbouring states, except Andhra Pradesh, like West Bengal, Jharkhand, and Chhattisgarh have lower confirmed cases rate than Odisha. Other major states like Assam, Maharashtra, New Delhi, Karnataka, Tamil Nadu, and Kerala have high confirmed cases rates in comparison to Odisha. With a recovery rate of 81.6 per cent, Odisha is doing better than such states as Chhattisgarh, Maharashtra, Karnataka, and Kerala. However, Odisha's recovery rate is slightly lower than that is recorded for whole of India. Currently, active cases in Odisha stand at 87 per lakh population, which is higher than that of India. However, it is significantly better than what is recorded for states like Chhattisgarh, Andhra Pradesh, Maharashtra, New Delhi, Karnataka, and Kerala. Early detection of cases, focused and isolated provision of health care in COVID-19 dedicated hospitals, and making sure that the patients in home quarantine are taking a clearly prescribed vitamin supplement requirements, have played a key role in achieving this significant recovery rate in Odisha. Tracking, testing, and quarantining have now been accepted as the best tools to contain spread of the novel virus. Here, testing plays a key role and Odisha has recorded 7096 testing per lakh population up to September 28, 2020. The state's testing rate is significantly higher than its immediate neighbouring states such as West Bengal, Jharkhand, and Chhattisgarh; and also it is better in comparison to testing rate of such states as Maharashtra, Gujarat, and Karnataka. Odisha's testing rate is also better than that of India. Majority of epidemiologists around the globe have advocated widespread and rigorous testing to contain COVID-19 and it is regarded that higher positive rate may imply non-rigorous testing. It can be particularly true if only symptomatic cases are tested and in this case positive

rate will be higher. In this regard, Odisha with a positive rate of 6.7 per cent is performing better than India and states like Andhra Pradesh, Maharashtra, West Bengal, Chattisgrah, New Delhi, Karnataka, and Tamil Nadu. This clearly implies that, in comparison to these states, COVID-19 testing in Odisha is rigorous. Case fatality rate of Odisha, which is at 0.38, is among the lowest in the country; and particularly, it is significantly better than India's fatality rate.

In the initial weeks and months, before the unlocking started from June 1, 2020, COVID-19 cases in Odisha were restricted only to the districts of Khorda, Jajapur, Balasore and Bhadrak. This too was due to the un-informed entry of in-migrants from neighbouring states of West Bengal. However, with the arrival of the Shramik Special trains from Gujarat, Maharashtra, Tamil Nadu, Andhra Pradesh, Kerala, Delhi and bus arrivals from some of these states by road, cases in other districts from where people had migrated outside for job or work started to rise constantly. As of now, the districts of Ganjam, Khordha, Cuttack, Gajapati, Sundargarh, Jajapur, Balasore, Jagatsinghpur, etc., which received the maximum number of migrants showed a sharp spike in infection. In fact, the situation in Ganjam district is grim since the fatalities are half of those of the entire state. Even though the government has officially not accepted community transmission, the case load in Ganjam district and corresponding fatality figures points to a failure of the administration in the management of COVID-19 cases. So much is the spread of the virus that, in September 2020, barring Nuapada and Deogarh, all other districts have been categorised as red zones by the Government of Odisha.

Table 1: Comparison of Odisha with Select States on Key Rates Related to COVID-19

Select States	Confirmed Cases Rate*	Active Cases	Testings Rate* Rate*	Positive Rate	Recovery Rate	Case Fatality Rate
Odisha	485	87	7096	6.7	81.6	0.38
West Bengal	254	26	3178	8	87.7	1.93
Jharkhand	211	33	5429	3.9	83.6	0.85
Chhattisgarh	360	109	3595	10	69.0	0.81
Andhra Pradesh	1287	124	10666	12.2	89.6	0.84
Assam	490	85	8999	5.4	82.3	0.39
Maharashtra	1086	222	5325	20.4	76.9	2.66

Gujarat	193	24	6141	3.1	85.0	2.56
New Delhi	1343	145	14484	9.3	87.3	1.93
Karnataka	868	158	6814	12.3	80.3	1.49
Tamil Nadu	764	61	9337	8.2	90.4	1.60
Kerala	497	161	7848	6.3	67.2	0.39
India	451	72	5342	8.4	82.5	1.57

Source: Authors' computation based on the data collected (Up to September 28, 2020) from <https://statedashboard.odisha.gov.in/>, <https://covidindia.org>, and Report of the Technical Group on Population Projections, National Commission on Population, Ministry of Health & Family Welfare, Nirman Bhawan, New Delhi.

1.2 Lockdown and Unlock Period-wise Spread of Covid-19 Cases in Odisha

Lockdown and unlock period wise analysis of the spread of COVID-19 cases in the state is presented in Table 2. It is evident from the table that there has been a steady rise in infected cases during different lockdown periods. Relatively speaking, infection rate in the first and second lockdown periods is low in comparison to third and fourth lockdown. It may be because, in the first two lockdowns, the state lacked the required infrastructure to conduct rigorous testing. The state's health department, like other states of the country, neither had the infrastructure nor the testing facilities in place for conducting widespread and rigorous testing. Only thermal screening was done on those who were coming into Odisha from other states or countries due to the unavailability of testing kits for COVID-19 Virus. If we compare lockdown 4 with 3 in particular, it is found that there has been a large-scale jump in the average infection rate in Odisha to the tune of 168%. This is evident from the fact that the testing for COVID-19 was ramped-up in the state from lockdown-3 onwards. The percentage scale-up in testing from lockdown 1 & 2 combined with lockdown-3 is 408.26%, while the increase in testing during lockdown 4 from 3 is 109.71%. For scaling-up, the testing of potential cases of COVID-19 multiple strategies of testing symptomatic cases, contact tracing, testing of incoming returnees from other states by road and rail routes were adopted. During lockdown-2 and 3, symptomatic cases were detected among those who had sneaked in from neighbouring West Bengal in particular and had not reported themselves before the authorities. In such cases, the Government of Odisha had to belligerently undertake search operations or contact tracing so as to prevent community spread of the virus in accordance with the guidelines or directives of the ICMR.

Like India, Odisha imposed a strict lockdown on its people initially in selected districts and then extended it to all the districts to contain COVID-19 spread. In fact, Government of Odisha imposed lockdown on March 22, which was a day prior to the nationwide lockdown announced by the Prime Minister. It can be seen from Table 2 that total number of infected persons per day in total lockdown periods is low as compared to that in the on-going unlock period. Per day infected persons during the entire lockdown was 27.8 and the same was recorded at 1657.4 in unlock period. Among the lockdown periods, per day infected persons was low (under 10) in lockdown 1 and 2. The primary reason for this was low per day testing of sample due to lack of testing kits and facilities. This is evident from the average per day testing of only 956 during first two lockdowns. The low infection rate during lockdown 1 and 2 raises a question mark on the timing of lockdown in the state. Lockdown 3 onwards, detection of infected persons started to rise with per day detected cases recording at 47.5 and 80 in lockdown 3 and 4, respectively. The rise in positive cases was because of rise in per day testing. As compared to first two lockdown periods, there was a significant increase in per day testing and it was around and above 4000 in lockdown 3 and lockdown 4, respectively. However, due to the under testing in first two lockdowns, average testing per day in entire lockdown period stood at 2163 and per day number of infected persons stood at 27.8. There were only 1975 confirmed cases in Odisha at the end of lockdown periods and a total of 155717 testing of samples were conducted in this period. Positive rate of lockdown period was recorded at 1.35. At the time of writing this paper, Odisha had 222734 confirmed cases and the cases rose sharply, particularly during unlock periods. As can be seen from Table 1, detection of per day infected persons, number of testing per day, and percentage of positive cases are all significantly higher in individual unlock periods and overall unlock period when compared to lockdown period. The worrying part (besides per day testing) is that cases of infections are steadily rising on a daily basis with no signs of stopping. In unlock period, per day spread of virus was recorded at 1809.7 and it was at 3973.3 in lockdown 4. So, if at all lockdown were to be imposed, the correct time would have been in September. However, the authors are of the opinion that blanket lockdown and stopping of all economic activities is not a good idea.

Table 2: Lockdown and Unlock Period-wise Spread of COVID-19 Cases and Testing Conducted in Odisha

Periods	Infected Persons		Testing Conducted			
	Per Day	Cumulative Total	Per Day	Cumulative Total	Positive Rate (%)	Negative Rate (%)
Lockdown 1	3.04	75	956	41128	0.40	99.6
Lockdown 2	6.05	115				
Lockdown 3	47.5	665	3903	54638	1.3	98.7
Lockdown 4	80	1120	4282	59951	2.05	97.95
All Lockdown Periods	27.8	1975	2163	155717	1.35	98.65
Unlock 1	170.6	5117	3910	117292	4.44	95.56
Unlock 2	800.4	24812	7480	231867	11.23	88.72
Unlock 3	2311.6	71659	42291	1311036	5.57	94.43
Unlock 4	3973.3	119198	47015	1297887	7.98	92.02
All Unlock Periods	1809.7	220786	24227	2958082	7.33	92.67

Source: Computed by authors from the data collected from Odisha Covid Dashboard (<https://statedashboard.odisha.gov.in/>)

Note: Lockdown period-1 includes March 21 infected number in cumulative head. Due to the unavailability of daily disaggregated data before May 2, 2020, figures for lockdown 1 and 2 have been clubbed together. Per day figures are calculated by total cases divided by number of days of the respective periods. Unlock-1 is from June 1 to 30 and Unlock 2 is from July 1 to 31, and Unlock 3 is from August 1 to 31, and Unlock 4 is from September 1 to 30, 2020.

3.3 Categories of State's Population Affected by COVID-19

Majority of infected persons in Odisha belong to the working age population as shown in Table 3. Out of all persons affected by COVID-19, 53.8 per cent and 31.8 per cent belong to age group of 15-40 and 41-60 years, respectively. Further, a majority of 68 per cent of infected persons are male. Disaggregate age-wise data on affected male and female persons can be of help in further understanding the vulnerable gender-wise age group of population most affected by COVID-19.

Table 3: Age-Wise and Gender-Wise Distribution of Infected Persons

Age Group (in Years)	Infected Persons (%)	Gender	Infected Persons (%)
0-14	5.3	Male	68
15-40	53.8		
41-60	31.8	Female	32
Above 60	9.3		
Total	100 (196888)	Total	100 (196888)

Source: Computed by authors from the data collected from Odisha Covid Dashboard (<https://statedashboard.odisha.gov.in/>)

Note: All figures are up to September 23, 2020; Figures in the parentheses are number of infected persons as on September 23, 2020.

1.3 District-wise Figures for Confirmed Cases, Reverse Migration, Recovery Rate, and CFR

- Share of each district and their ranks on this basis in total confirmed cases, active cases, and total number of migrant workers returning to Odisha are presented in Table 4. Also in this table, recovery rate and case fatality rate of each district along with ranks are shown. This will help us in assessing the performance of each district as far as these variables are concerned. It is now widely accepted that migrant workers were left jobless and forced to return to their native villages due to the imposition of nationwide lockdown without sufficient prior notice. These workers did reverse migration during April and May. Association between reverse migration and spread of COVID-19 cases, if proved, will reveal that mishandling of reverse migration issue led to spike in COVID-19 cases in Odisha. As per the official figure, around 207409 workers returned to Odisha during the lockdown and the top ten districts in descending order that received these workers are Ganjam, Balasore, Bhadrak, Khordha, Mayurbhanj, Cuttack, Kendrapada, Jajapur, Bolangir, and Jagatsinghpur. Six out of these 10 districts; namely Khordha, Ganjam, Cuttack, Jajapur, Mayurbhanj, and Balasore are also falling in the top ten districts in terms of the share in total confirmed cases. There seems to be an association between rank of the districts in terms of share in total reverse migration received by the state and ranks of the districts in terms of share in total confirmed cases. The correlation coefficient between district-wise confirmed cases and number of reverse migrants was 0.62, which is

strong. Further, Spearman's rank correlation between ranks of districts on the basis of confirmed cases and on the basis of total arrival of reverse migrants was 0.70, and it is statistically significant. However, exact extent of causal relationship between total migrants arrived and total confirmed cases can be known from regression analysis.

Table 4: District-wise Share of and Rank on Key Variables of COVID-19 in Odisha

Districts	Confirmed Cases		Active Cases		Reverse Migration		Recovery		Fatality	
	Share	Rank	Share	Rank	Share	Rank	Rate	Rank	Rate	Rank
Angul	1.7	22	3.8	8	1.9	17	58.9	30	0.15	22
Balasore	3.5	9	4.0	5	9.9	2	78.5	18	0.29	13
Bargarh	2.9	11	3.3	9	2.1	16	78.9	17	0.21	19
Bhadrak	2.5	13	2.3	16	7.9	3	82.5	9	0.25	17
Bolangir	2.0	19	1.7	21	4.8	9	82.9	8	0.49	7
Boudh	0.9	29	1.4	26	0.8	26	68.3	28	0.06	27
Cuttack	9.5	3	12.8	2	5.5	6	74.6	22	0.32	12
Deogarh	0.3	30	0.3	30	0.4	30	79.5	15	0.00	30
Dhenkanal	1.7	24	1.6	22	1.9	18	82.2	11	0.09	26
Gajapati	1.7	21	0.5	29	0.7	27	94.0	2	0.64	2
Ganjam	10.1	2	0.8	28	12.0	1	97.4	1	1.09	1
Jagatsinghapur	2.4	14	3.9	6	3.8	10	69.5	27	0.15	21
Jajapur	3.9	5	4.7	4	4.9	8	77.7	20	0.09	25
Jharsuguda	2.0	18	2.9	13	0.6	29	73.3	24	0.03	29
Kalahandi	1.5	26	2.2	17	2.6	14	72.1	25	0.24	18
Kandhamal	2.1	17	2.2	19	1.0	23	79.9	14	0.51	5
Kendrapara	2.3	15	3.2	12	5.5	7	73.5	23	0.18	20
Kendujhar	1.9	20	1.6	25	3.2	13	84.3	7	0.27	15
Khordha	17.3	1	17.8	1	7.8	4	80.5	12	0.35	10
Koraput	3.0	10	2.2	18	1.1	22	86.1	5	0.12	23
Malkangiri	1.7	23	1.4	27	0.6	28	84.8	6	0.32	11
Mayurbhanj	3.7	6	3.9	7	5.6	5	80.0	13	0.27	14
Nabarangpur	1.7	25	2.5	14	0.8	25	71.9	26	0.09	24

Nayagarh	2.3	16	1.6	23	1.5	20	86.3	4	0.45	8
Nuapada	1.3	28	2.3	15	0.9	24	66.3	29	0.04	28
Puri	4.7	4	5.1	3	3.4	11	79.1	16	0.51	6
Rayagada	3.6	7	1.6	24	2.3	15	91.3	3	0.52	4
Sambalpur	2.8	12	3.2	11	1.3	21	77.7	19	0.40	9
Subarnapur	1.4	27	1.8	20	1.6	19	74.9	21	0.26	16
Sundargarh	3.6	8	3.3	10	3.4	12	82.4	10	0.55	3
All Odisha	197127	NA	36794	NA	207409	NA	80.9	NA	0.39	NA

Source: Same as Table 3

Note: All Odisha figures of confirmed cases, active cases, and migrants are in numbers; Ranks of respective districts are given such that 1 is for largest share and 30 is for smallest share; and 1 & 30 are for largest and smallest rates, respectively, in case of recovery rate and CFR; NA implies 'Not Applicable'; Data used for computation are till September 23, 2020.

As on September 23, 2020, the worst affected districts due to COVID-19 are Khordha, Ganjam, Cuttack, Puri, and Jajapur. However, districts such as Khordha, Cuttack, Puri, Jajapur, and Balasore are having highest share in active cases currently. Recovery rates in such districts as Ganjam, Gajapati, Rayagada, Nayagarh, and Koraput are amongst the highest in the state. However, low recovery rate of Jagatsingpur is worrisome as it occupies 14th rank in terms of conformed cases. The case of Ganjam throws up a big challenge as it is the only district in Odisha, whose CFR is above 1. This district's recovery rate is impressive as it occupies 2nd rank. However, causes for high CFR needs to be investigated further.

1.4 State Government's Handling of Reverse Migration

The Government of Odisha framed policies and strategies to control the influx of in-migrants into Odisha, whether they came by road or rail. Migrants who desired to go back to Odisha from any outside state were mandatorily required to first take permission and collect a pass to this effect for inter-state travel from the concerned district authority, designated by the concerned state government. To give an example, suppose 15 Odias wish to come to Odisha from Tamil Nadu by arranging a bus or by van; then they had to first contact the district administration seeking permission for travel outside. All the district authorities in the country were directed by the Government of India to show

urgency in this matter concerning inter-state travel. On receipt of a request through the online Covid Portal of Govt. of Odisha, the concerned authorities then made a thorough appraisal as to how many of them desired to return; what would be the mode of travel; their contact details and whether they have registered themselves in a proper manner. This information was to be provided to the concerned district authorities by the migrants after which they were issued a valid pass to enter Odisha through a designated border check-post.

As per the statement of the state government's representative, there were 11 check-points in Odisha, identified by the Government of Odisha, through which incoming migrants could make an entry by road. The following are the designated check points identified to receive in-migrants – Biramitrapur, Sundargarh; Champua, Keonjhar; Chandni, Koraput; Girishola, Ganjam; Jamsola, Mayurbhanj; Kerada, Rayagada; Khariar Road, Nuapada; Lakshman Nath, Balasore; Luharchatti, Bargarh; Motu, Malkangiri; and Sunki, Koraput. Anyone coming from outside by road, and by whatever mode, could enter Odisha with a valid pass and documents.

After reaching at the designated border check-point, entry date-stamping was done with indelible ink on the right hand of every incoming migrant, which was to be in place till the end of the quarantine period. Then a sticker, which was a standard sticker developed for the entire state of Odisha, was pasted at a prominent place on the windshield of the vehicle incorporating detailed information regarding the place from where the migrants have come and where they shall be going. This sticker acted as a pass in the entire state. At each of these entry points, a computer system was provided along with internet connectivity and an active web portal where data regarding the incoming migrants was entered real-time. This information was instantly available and transferred to the concerned District Collector, Block Development Officer and the Sarpanch of the Panchayat to which place a batch of migrants were being sent from the entry points. Further, every Sarpanch was provided with authority to monitor the entire process.

The Government of India had started Shramik Special trains from various cities to transport migrants to their domicile state and nearest town. Those travelling by Shramik Special trains, they too had to pre-register in the Odisha Government's web portal. The concerned authorities of the state/place who were entrusted with facilitating the process of travel of migrants from their state by train, entered a bilateral discussion with the representatives of

Government of Odisha, and only then were these trains allowed to enter Odisha. It was splashed all over in the media that the Government of Odisha shall facilitate the entire process of receiving the in-migrants who were entering Odisha from various metros, cities and towns. The government shall facilitate this entire process from the start of the journey till they reach their homes via the quarantine centres. Reception of migrants who came by trains was also done at designated railway stations only because arrangements had to be made to transport the migrants from these railway stations to the respective district and panchayat. Since this was a public health crisis, a 14-day mandatory institutional quarantine was implemented for all incoming migrants. The government and local administration assured the general public that it shall make all arrangements at its own cost, for the onward travel of the migrants from the railway station to their destination by bus.

For urban areas, “home quarantine” was the preferable mode to deal with incoming migrants. The Commissioner of Municipal Corporation or the Executive Officer, NAC or Municipality was entrusted with the responsibility to designate a Quarantine Officer who in collaboration with and assisted by the local health officials would check the health status of the migrants and shall preferably recommend for “home quarantine”. In such cases where the person does not have adequate facility or space for “home quarantine”, then the person was placed in “institutional quarantine” established by the state government in the town/city. The state government had established approximately 40,000 beds spread across the entire state of Odisha to keep people under “institutional quarantine”. Those who were identified for placement under “institutional quarantine”, also had the choice to opt for “paid quarantine”. The respective Municipal Commissioner and district administration had already identified hotels and lodges, and decided fixed rates, where persons who opt for “paid quarantine” made a payment and stayed under “institutional quarantine”. However, those migrants whose health permitted were placed in “home quarantine” and a “sticker” notifying the house as a home quarantine facility was fixed at the entrance for public view so that people did not accidentally enter the house and not risk chance of COVID-19 transmission. This sticker was fixed outside every house where a COVID-19 patient was residing. Further, the health status of the patient was closely monitored by a small medical team constituted and designated by the district administration for each locality and rural area. The family members and the neighbourhood of each of such COVID-19 patients who were under “home quarantine” were requested through multiple media to be extra careful

in sincerely following the protocols of home quarantine. It was observed that a sizeable number of migrants who came from outside turned out to be COVID positive on testing.

In case the government machinery came to know that there were willful violators of “home quarantine”, which was a health risk in terms of public health for the citizens of Odisha, the government declared that it shall be forced to apply the “Disaster Management Act 2005”, the “Epidemic Disease Act 1897” under Indian Penal Code and all such provisions under these laws on the violators. Appropriate instructions and directives to the police and district administration to this effect were also promptly given for application of the legal provisions under these acts.

3.6 Factors Responsible for Spread of COVID-19 Cases

When migrant workers move from their place of their employment to their native place, reverse migration takes place. These workers are vulnerable to COVID-19 and can ultimately become carrier of this deadly virus to their native places. India saw a massive reverse migration into states like Bihar, Uttar Pradesh, West Bengal, and Odisha after a nationwide lock down was imposed to contain the spread of the virus. It is seen that states with massive influx of migrants have seen a sharper rise in COVID-19 positive cases (Panda & Biswal, 2020). In this context, we may expect a positive relationship between number of reverse migrants and number of COVID-19 positive cases. There is an urgent need for knowledge and information management so that citizens have clear and reasonable information, which will guarantee their change in behaviour to contain the spread of infection (Legido-Quigley et al., 2020). Adult learning and education are also effective tools to check spread of COVID-19 infection (Lopes & McKay, 2020). Therefore, literacy rate, proxy for adult learning, educated people, and ability to grasp clear and reasonable information) are expected to have negative effect on spread of COVID-19. People are particularly exposed to COVID-19 infection through close family or work contacts, as transmission seems to occur through contaminated droplets expelled by an infected person who is less than two metres away (Middleton et al., 2020). With high density of population, it is difficult to avoid close family or work contacts or for that matter maintaining less than two metres gap while buying household items. In theory, density leads to closer contact and more interaction among residents, which makes them potential hotspots for the rapid spread of emerging infectious diseases (Hamidi et al., 2020). Hence, direct relationship between population density and spread of the disease is expected. Larger share

of urban population leads to overcrowding in urban areas and mushrooming of slums with lack of basic facilities. There is a view that the Indian COVID-19 crisis turned from bad to worse in the cities (Roy, 2020). Therefore, a direct relationship between share of urban population and spread of COVID-19 cases is expected. Through this paper, we would like to examine that variables such as reverse migration, literacy rate, share of urban population, and population density affect the spread of COVID-19 in Odisha.

Regression results, presented in Table 5, show a strong causal relationship between number of reverse migrants and number of confirmed COVID-19 cases in Odisha. The coefficient of reverse migrants is positive and statistically significant. Its interpretation is that one per cent change in number of reverse migrants brings about 0.434 per cent change, in the same direction, in the number of COVID-19 positive cases in Odisha. Therefore, in case of Odisha, reverse migration caused significant spread of COVID-19 cases. Also, nationwide lockdown, being the main reason behind reverse migration, increased the spread of COVID-19 cases instead of containing it. Furthermore, there is a positive effect of population density on the spread of positive cases in Odisha. The coefficient of literacy rate is negative and statistically significant meaning there is an inverse relationship between literacy rate and COVID-19 spread. Positive and statistically significant coefficient of share of urban population indicates that larger (smaller) share of urban population leads to increase (decrease) in the spread of COVID-19 cases.

Table 5: Regression Results

Explanatory Variables	Dependent Variable: Confirmed COVID-19 Cases [#]
Number of Reverse Migrants [#]	0.434 ^{***} (0.116)
Population Density	0.001 [*] (0.001)
Literacy Rate	-0.022 ^{**} (0.008)
Share of Urban Population	0.035 [*] (0.007)
Constant	5.456 [*] (1.010)
Adjusted R-Square	0.7471
F(4,25)	22.42
Number of Observations	30

Source: Author's Computation from data collected from Statistical Abstract of Odisha 2012, <https://statedashboard.odisha.gov.in>, and <https://www.census2011.co.in/census/state/districtlist/orissa.html>

Note: 1. ^{***}-significant at 1 per cent, ^{**}- significant at 5 per cent, ^{*}- significant at 10 per cent; 2. Figures in parentheses are standard errors; 3. [#]- Natural log values of the variables used in regression model.

4. Conclusion and Policy Prescriptions

Since January 30, 2020, when the first COVID-19 case was reported in Odisha, the number of positive cases has surpassed 2.22 lakh and spread of the virus has affected almost all the districts of the state. In comparison to states like Andhra Pradesh, Assam, Maharashtra, New Delhi, Karnataka, Tamil Nadu, and Kerala, Odisha has done well to keep its confirmed cases rate lower. However, it has not done well when we compare its confirmed cases rate with that of West Bengal, Jharkhand, Chhattisgarh, Gujarat, and overall India. The state's active cases rate is slightly higher than all-India average. This means the state is not complacent in its fight against COVID-19. Odisha has done well to keep its recovery rate above 80 per cent and its CFR is one of the lowest in India. In so far as testings are concerned, Odisha has performed better than its neighbouring states, except Andhra Pradesh, and states like Maharashtra, Gujarat, Karnataka, and overall India. Like the case of India, spread of the virus has rapidly increased in unlock period making the lockdown totally ineffective. One good thing that came out in the unlock period in Odisha is the increased testing of samples. District-wise analysis revealed that Khordha, Ganjam, Cuttack, Puri, Jajapur, Mayurbhanj, Rayagada, Sundargarh, Balasore, and Koraput are the worst affected districts in terms of total confirmed cases. On the basis of active cases, the government would do well to seriously focus on districts like Khordha, Cuttack, Puri, Jajapur, and Balasore. CFR is Ganjam is highest among all districts and more research is needed to understand why it is so. Men and persons belonging to working age are majorly affected by COVID-19 in Odisha. Reverse migration is a key factor in Odisha in spreading COVID-19 cases. Therefore, nationwide lockdown and mishandling of the issue of reverse migrants to a large extent are responsible for the spread of COVID-19 cases in Odisha. Literacy rate has negative effect on the spread of virus. Hence, going by this experience, increasing literacy rate of the state should be the goal of the government to well prepare the state for any future pandemic. Both density of population and share of urban population have direct relationship with spread of COVID-19 cases in Odisha. This implies, going ahead, the state government should seriously try to design policies to reduce urban congestion as there is little it can do now to reduce population density. One of the learning lessons for the Government of India as well as Odisha is that they should discard the policies of lockdown and shut down of all economic activities in the event of any situation like this in future.

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Socio-Economic Impact of COVID-19 Pandemic on Tourism and Hospitality Industry of India

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Abstract

The hospitality and tourism industry is the backbone of the economy in many developing countries including India. The hospitality and tourism industry is the largest source of generating revenue and foreign exchange earnings. This sunshine industry contributes a lion's share of the country's GDP strengthening the national economy. However, the industry is witnessing a catastrophic pandemic COVID-19 in the Present scenario and crippled with it for future survival and sustainability. Hence this present paper focuses on the insight of the hospitality and tourism industry of India, and the impact incurred socio-economically by the pandemic COVID-19. So that the major steps can be drawn for its survival and existence during post-COVID-19 and can formulate a road map for the future operation.

Keywords: COVID-19, Socio-economic impact, Hospitality & tourism, India

Introduction

The hospitality and tourism sector plays a pivotal role in Indian service sectors and the major engine for growth and development of the country's economy. The sector

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also contributes a major chunk for employment generation among the youth. According to NITI Aayog, the Indian tourism & hospitality sectors is popularly acclaimed as sunshine and recession-proof industry responsible for more jobs per million rupees of an investment than any other sectors. Ample of jobs both in organized and unorganized sectors are generated from this industry creating opportunities for skilled and unskilled manpower. The market size of the Indian hospitality and tourism sector is rapidly growing because a lot of investments from foreign markets are flowing towards it. The travel and tourism industry has been attracting all forms of investors for years. With a capital investment of US\$ 51.6 billion in 2019, the travel and tourism sector in India has secured the third place worldwide.

The Indian government has also ushered the growth of these sectors by affording 100 per cent foreign direct investment (FDI), single window procedure of all related hospitality and tourism laws and regulations, flexible tax incentives, infrastructure development, and facilitation of e-visa for foreign tourists. The hospitality and tourism sectors have been recognized worldwide as the catalyst for stupendous development and socio-economic growth. Across the universe, the hospitality and tourism sectors generate a substantial portion of the money for various cities and countries. The sectors provide jobs and employment to the local people. India's billion-dollar economy is by the dint of the hospitality and tourism sectors. This flourishing industry is again glorified by the more numbers of foreign tourists influx and fervent of exploring more among the domestic tourists. Indian tourism and hospitality industry have the emblem of '*Atithidebovabha*' and 'incredible India' has immensely attracted tremendous numbers of foreign and domestic tourists at a particular time. But the present scenario has devastated by the phenomenal pandemic COVID-19 which has converted it from 'over-tourism to no tourism'. Whenever there may have been some significant effect on a country's economy, tourism has always been the first to be impacted when individuals first tend to reduce their travel budgets. However, when it comes to COVID-19, which has grown increasingly and rapidly in countries with a large number of visitors, tourism has the potential to play the central role.

India, the land of spiritualism and religiosity has turned into a barren island in due course of time. The hospitality and tourism industry has entered into a zone of crisis resulting from a high index falling off the global economy. Pandemic has made the industry to a standstill, where there is no movement of travelers and tourists, decreasing the hotel occupancy below the desired level. Simultaneously the deadly pandemic COVID-19 has created a global health alarm among the tourist and travelers that has again intensified the 'tourism phobia'. The pandemic has not only affected this sector only but also has affected lots of other sectors associated with tourism. The people at

grass root are highly affected. Rural and tribal tourism which mostly promote craft and culture is also highly affected. Spiritual and medical tourism which were major sources of revenue generation is also lying idle. Hence, it is high time to assess and identify the major survival and revival steps to get rid of this pandemic by measuring the various socio-economic impacts done by the COVID-19 pandemic. With the above background, the present paper tries to identify various causes responsible for the downfall of the hospitality and tourism industry by the sudden pandemic attack of COVID-19 in India. It also explored the socio-economic impact of COVID-19 on the hospitality and tourism industry of India.

Research Methodology

To address the above objectives in the present paper, the authors adopted the ‘desktop research methodology, as this method is suitable for sudden phenomena occurring in a rapid manner, and gathers the data not from the primary sources, but from the secondary sources, which seems to be easy to find. The benefits of choosing the desktop research method are, as it captures the large scale of data currently happens and impacts adversely the society.

The desktop methodology pertains all the literature search by using the key terms like ‘Pandemic’, ‘crisis’, ‘diseases’, ‘COVID-19’, ‘lockdown’, ‘socio-economic’, ‘impact’, ‘hospitality and tourism’, ‘social distancing’, ‘economic meltdown’ in different research platform by using the Google search. Apart from this, some interaction was held with a few tourism agencies and experts working in this area.

Literature Review

The COVID-19 outbreak began in January 2020 in China and over the next couple of months, its spread rapidly to other countries across the world. This launched a major worldwide crisis that affected all human activities, including tourism and travel (Niewiadomski, 2020). A state of emergency has been declared in several regions around the world due to the rapid increase in infections and fatalities (Ahmed & Memish, 2020; Anderson et al.; Stübinger et al., 2020). As pointed out by various studies (Di Gennaro et al., 2020; Haushofer & Metcalf, 2020; Amodio et al., 2020; McKibbin & Fernando, 2020), factors such as health and the socio-cultural and economic fabric of the most severely contaminated regions such as China, Europe, the USA and India are frequently affected by the outbreak of COVID-19. The consequences of COVID-19 have significantly affected public health and destroyed the quality of life (Qin & La, 2020). In addition, the effect of COVID-19 on domestic and foreign travel, as well as education, was come into the notice (Li & Zhang, 2020).

The impact of COVID-19 has severely damaged public health as well as destroyed the quality of the life (Qin & La, 2020). Moreover, the impact of COVID-19 on travel on the domestic and international front and also on education has come into the notice (Li & Zhang, 2020). The outbreak of COVID-19 is frequently contrasted by comparison with the SARS epidemic between 2002 and 2003 (Chinazzi, 2020) however, the magnitude of the issue is now understood to be much more severe and will impact far more regions and industries. Because of this pandemic, all the sectors including the hotel and tourism industries are highly affected. The hotel industry is widely recognized as a crucial component of the global tourism economy and it also plays a leading role as an employer (Dinarto, 2020). As Cooper (2005) noted, even in high-risk areas the travel and tourism sector is ill-equipped for disaster situations. Tourists have tried to steer clear of the destinations tagged as infected areas after the SARS outbreak. This was due to two reasons: (1) governments imposed restrictions on those travelling to the regions concerned or (2) visitors themselves began to avoid such places. Wang & Ritchie (2010) argue that the hotel industry is especially challenging active crisis management as the sector is unguarded to crises such as terrorist attacks, bird flu, SARS epidemic, and the 2008–09 global financial meltdown investigated by the authors. The COVID-19 pandemic has not only brought the hotel industry to a standstill but it also threatens future investments in the industry (Chen, 2011).

Because of the COVID-19 global health crisis, the travel and tourism industry is 'already facing failure' and is 'in a struggle for survival' (Guevara, 2020). Hotels are especially vulnerable to decreased tourism and travel, as well as to a slowdown in economic activity (Hoisington, 2020). The hotel and tourism industry is the softest and tender industry controlled by regular interactions between different individuals from all levels.

From time to time, different catastrophes have brought different kinds of consequences and the industry perspectives have been faced them valiantly. For instance, hoteliers in Hong Kong introduced enhanced security measures such as upgrading surveillance systems and increasing safety training for hotel employees following the 9/11 attacks (Chan & Lam, 2013). The Korean hotel industry introduced new hygiene equipment and provided health-care education to employees after the Severe Respiratory Acute Syndrome (SARS) outbreak (Kim, 2005). Nguyen et al. (2017) observed evacuees were offered refuge, lodging and other facilities on a Japanese coastal destination when the 2011 Great East Japan Earthquake and tsunami struck Japan. When tourists' concerns about safety and health risks increase, epidemics can directly influence travel behavior of individuals (Mao et al., 2010).

Analysis and Findings

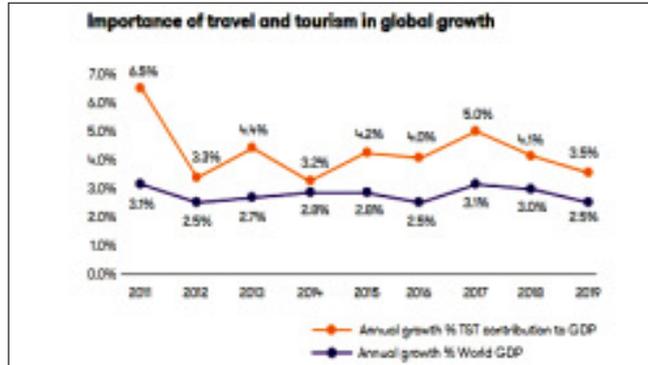
The World Health Organization (WHO, 2020) designated COVID-19 a “public health emergency of international concern” on January 30, 2020. To combat this pandemic, the government has taken major steps imposing lockdown across the country, social distancing everywhere, and quarantine. Most of the European countries are deadly hit by this pandemic, and India is also going through a bad phase of it, though infected lately. After the USA and Brazil, it is now the third most affected nation in the world. During the different phases of lockdown, the different industries and sectors are worst hit by this pandemic, and the hospitality and tourism industry is no exception to it.

It is essential to look back to India’s hospitality and tourism industry growth and development was unprecedented by nature bouncing back from the previous years, poised for touching the new horizon. India has become the 7th largest country in the world with abundant tourism resources attracting millions of tourists annually, contributing a major chunk towards India’s GDP (Ministry of Tourism, India, 2019). Tourism and hospitality sectors have immense potential generating a large pool of employment among the youth as well as the same time has the power of earning foreign exchanges to large extent. In 2019, the report says that Foreign Exchange Earning (FEE) was US\$ 29.96 billion touching a substantial growth of 4.8 per cent year-on-year and touched US\$ 5.40 billion for the period of January and February in 2020 (Ministry of Tourism India, 2019).

The position of India was third among the 185 countries worldwide in respect of the actual contribution of tourism and travel to GDP in the year of 2018 as per the report given by the World Travel and Tourism Council (WTTC). The report prepared by the world economic forum placed India in the 34th position in the context of tourism competitiveness and attractiveness (WTTC, 2020). It claims that the tourism sector in India generated 6.8 per cent of India’s GDP in 2019 and contributed 8 per cent of the total employment opportunities generated in the country.

The surprising growth trajectory of 3.5 per cent to the global GDP of 2.5 per cent as per the report of 2019 has focused on the significance of the travel and tourism industry. For consistently nine years, the travel and tourism industry is flourishing due to disposable incomes, digital advancements, ease of travel, and a well-balanced work-life balance (*Business Today*, 2020).

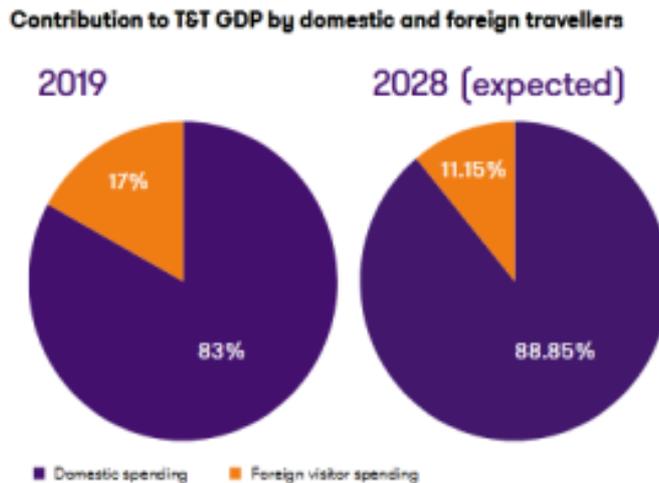
Figure 1: Growth of Contribution of Travel and Tourism to Global GDP



Source: FICCI, June, 2020.

Regarded as a catalyst for growth and development for the nation, this industry not only positively influences the numerous enthusiastic individuals but also have the solidarity to transform the society in a better way. The tourism and travel sector has reflected a high note of growth due to domestic travelers, as well as the spending power of inbound tourists (83 per cent). In the future, the share may go up to 89 per cent propelled by rising in disposable incomes and more vacation (India Brand Equity Foundation, 2019). As the Government of India has widened the scope for domestic tourism, it is expected most of the domestic tourist will choose to travel.

Figure 2: Contribution of Travel and Tourism to GDP by Domestic and Foreign Travelers



Source: FICCI, June, 2020

But the COVID-19 pandemic has paralyzed the industry and its business operation, compelling travelers and tourists to stay at their homes and strictly following the safety and hygiene regulations. Popular destinations across the globe once upon a time blamed for over-tourism, but over the night it has changed to no tourism. Hence in the light of the present situation, it is worthwhile to explore the hidden potential of India's tourism and hospitality industry, so that impact assessment can be easily performed to find out the road ahead.

The 'Digital India', 'Make in India' and 'Incredible India', all three prolific steps have strengthened the industry to a pinnacle for success. The booming and growing middle class and disposable incomes of India have further exacerbated inbound and outbound tourism. In the entire year 2019, the foreign tourist arrivals (FTAs) went up surging towards 10.89 million, registering a growth percentage of 3.2 per cent. In 2019, the share of the Indian tourism sector in total employment generation was 8.1 per cent. It has been predicted that the number may rise to 52.3 million at a growth rate of 2 per cent annually (Tourism Breaking News, 2020). The data and information sourced from the different reliable government organization clearly shows that India is poised for a future-ready hospitality and tourism industry, where the inclusive development is going to be achieved.

In the present scenario, inbound tourism of India is worst hit by the severe lockdown and social distancing across the globe. The booking of hotels, airlines, and other accommodation units has been stopped due to fear of pandemics. So the industry is looking for a speedy recovery for its existence in post-COVID -19. Since March 22nd, India's international borders remain closed, while the movement of domestic travelers has been limited with the nationwide lockdown since 25th March. In the year 2018-19, international inbound tourism contributed almost \$2.85 billion, with a total of 17.42 million international tourists arrived in India. In 2019, nearly 11 million foreign tourists visited India, and forex earnings from inbound tourism stood at Rs. 2.2 lakh crore (\$33.69 million). Compared to the same period last year both inbound and outbound tourism declined by 67 per cent and 52 per cent, respectively, due to large scale cancellations of travel plans by both domestic and foreign tourists. A report submitted by the Federation of Associations in Indian Tourism and Hospitality to the RBI expert committee set up by the government of India reveals that the arrival of foreign tourists to India will be all most nil till March 2021. Almost 70 per cent of the inbound business to India has concentrated in around 13 countries like the United Kingdom, Canada, Australia, Malaysia, China, Thailand, Bangladesh, etc. Us, which contributed around 14 per cent of inbound tourists to India is the world's most affected country. As all most all these countries are highly affected by COVID-19

has discouraged all international travelers. Even around 26.3 million outbound traveling Indians who are served by tour operators in a year are almost non-performing.

This year, the dramatic drop in inbound international visitors would have a detrimental effect on some countries. For the local economy, most of the states in the country are highly dependent on tourism and will be most affected. Customers around the world are worried about safety and flexibility around travel plans will not be encouraged to travel to countries such as India, in which cases are rising first and will soon be the number one affected country. Each year, medical tourism draws lots of patients to India from abroad. In 2019, India experienced a medical visa footfall of 6.97 lakh international patients. This constitutes 6.9 per cent of overall international tourist arrivals (Ministry of Tourism, 2020). But the cancellation of international flights and the move of most general hospitals to COVID hospitals have prevented international patients from visiting India because of the lockdown. However, the gradual opening of its skies through an agreement with selected countries on air bubbles has opened up the possibility of rejuvenating medical tourism.

According to the Ministry of Civil Aviation, the COVID-19 pandemic's ripple effect was found to paralyze the Indian tourism and hospitality industry rapidly. India is experiencing a 25 per cent to 30 per cent decline in foreign visitors to the country during this catastrophe. A study published by the World Tourism Organization (UNWTO) reported a tremendous number of jobs in the global tourism industry at peril due to the COVID-19 pandemic that has infected the entire industry (UNWTO, 2020). The WTTC (World Travel and Tourism Council) predicts the potential job impact of COVID-19 to the global Travel & Tourism Sector. Both white and blue-collar jobs and up to 50 million jobs are at risk globally, which represents a reduction in jobs up to 12 to 14 per cent. For the first time in world history, 96 per cent of the destinations are deserted due to this pandemic. A huge number of global brand hotels are spurring into the Indian market. From a confidential source it is learnt that international hotel groups are contributing 47 per cent of the total share by 2020, however, 50 per cent by 2022 but seems to be difficult during the pandemic situation.

The COVID-19 pandemic has crippled the hospitality and tourism sectors in a short amount of time. One of the biggest casualties of this pandemic is the hospitality and tourism sectors, as the demand has suddenly fallen due to the suspension of global visas, international air travel, and avoidance of mass gatherings. India like other countries facing the trauma of lockdown losing the major chunks of the global economy. Lockdown was the foremost step to handle COVID-19 impacting all the dimensions of the hospitality and tourism industry adversely. Tourism and hospitality products

being perishable there has been heavy damage in hotel occupancy leading to poor revenue generation.

The turbulence caused by the COVID-19 pandemic could lead to an 18-20 per cent attrition of total occupancy across the sector and a 12-14 per cent decrease in average daily rates (ADRs) for the entire 2020 (HRW, 2020). The hospitality sector is also likely to be affected by massive cancellations and declines in room rates. The rise of COVID-19 brought a beyond imagination loss to the global hotel sector. Specifically, the Indian hotel sector got highly affected since the first week of March. India reported a 12 per cent year-over-year fall in hotel occupancy in the first week of March. With the rise of COVID-19 cases, the demand for hotel booking went down. All most of the future booking got paralyzed. The second week of March reflected a drop of 43 per cent. Subsequently, in the third week, it fell 67 per cent. Following a Janata Curfew on 22 March, hotel occupancy fell down to around 80 per cent in comparison to last year, 2019. thereafter all most all the hotels remain closed till the first week of June except few hotels used by respective state governments to accommodate few international travelers brought by the “*Vande Bharat Mission*” and as a quarantine center. All most of all transient demand has completely vanished. Even though the central government allowed hotels to open from the first week of June, all most all the states put it on hold till the end of July. Even though now all most the hotels are open with strict guidelines, the occupancy has not improved. As the cases are rising day by day and all most all air roots are closed the foreign tourists will not take a risk to visit India at this juncture. Similar cases are visible in the case of domestic travelers. Nobody will take a risk to visit a crowded city along with their family members and stay for a few days in different hotels.

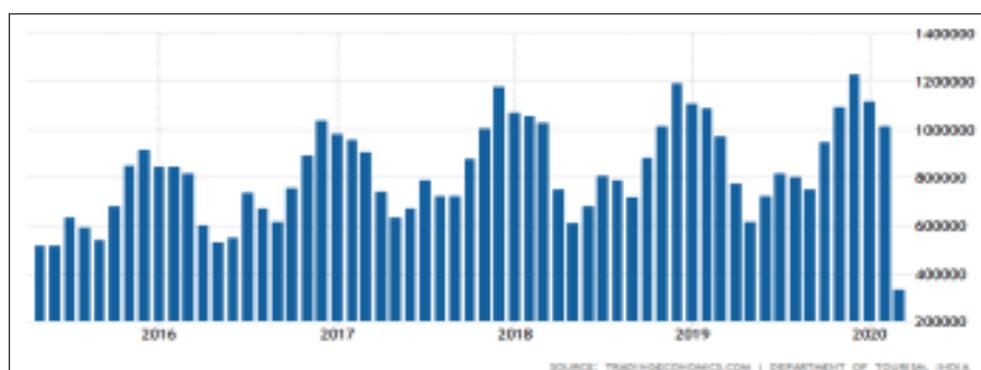
The coronavirus pandemic could cause approximately 38 million people unemployed, as per the World Travel and Tourism Council India Initiative (WTTCII) and the Federation of Associations of Indian Tourism and Hospitality (FAITH). Not only the rising unemployment but also the sustained nationwide lockdown has to lead to bankruptcies and the shutdown of multiple travel companies. According to the Confederation of Indian Industry (CII), due to the impact of COVID-19, hotel chains lost around Rs 1.10 lakh crore, various online travel agencies faced losses to the tune of Rs. 4,312 crores, tour operators (inbound and domestic) Rs. 25,000 crore, adventure tour operators Rs. lost nearly 19,000 crores and losses cruise tourism were reported to be around Rs. 419 crore. According to a report by CII and hospitality consultancy company Hotelivate, the coronavirus pandemic has badly impacted the Indian travel and tourism industry and the entire value chain linked to the sector is likely to lose around Rs. 5 lakh crore or \$ 65.57 billion. This is one of the deadliest disasters ever to

hit the Indian tourism industry, affecting all its spatial segments, recreation, adventure, heritage, MICE, cruise, business and specialized segments, outbound, inbound and domestic, almost all tourism verticals.

Hence there is a huge job layoff, as most of the hotel and tourism companies are unable to pay the perks of the large numbers of employees, in a state of zero occupancy. WTTC reports show the strong effect of the current COVID-19 epidemic on the travel & tourism industry with forecasts now estimating that up to 50 million jobs are at risk worldwide in the sector. The hospitality, travel, and tourism industry have hard hit by the pandemic and the sudden devastation of the industry has created a phobia among the industry stalwarts and stakeholders. The multinational hospitality consulting company HVS India has published a study that closely relates to the devastating tale of the hospitality industry that is creeping into the future post-pandemic survival of COVID-19. Similarly, the report presented by the IBEF also talks a lot about the hospitality and tourism industry and has suggested new avenues for restoration and survival of the sunshine industry. Figure 1 shows the realistic data of the hospitality and tourism industry and its stupendous growth and development.

Aviation is also one of the significant sectors recently affected by the COVID-19 outbreak. As per data revealed by the International Air Transport Association (IATA), due to this crisis, airlines worldwide may lose up to US\$ 113 billion in passenger revenue. Airfares have also witnessed nearly 30 per cent declines in the booking. Domestic traffic growth is also steadily impacted by the postponement or termination of their travel plans by domestic travellers (IATA, 2020). As per the data available from the Ministry of Civil Aviation, between February and March, reportedly 585 passenger flights to and from India were cancelled due to the outbreak of the COVID-19.

Figure 3: Indian Tourist Losses in 2020 Relative to the Last 4 Years



Source: Tradingeconomics.com, Department of tourism, India.

The newly reported figures by the Ministry of Tourism, Government of India, also substantiated the specific complaint as Foreign Tourist Arrivals (FTA) in the January-March quarter was found to be diminishing by about 67 per cent annually, while local tourists reported a very much smaller figure of about 40 per cent. According to government reports, the FTA in February 2020 fell by 9.3 per cent month-wise and 7 per cent year-wise. Calling 2020 the worst year in the history of aviation, global airline body IATA said that airlines across the globe are expected to lose \$84.3 billion in 2020 due to the pandemic. At the same time, they expect losses to be cut by \$15.8 billion in 2021. If you look into the Indian scenario all the international/ domestic flights are being canceled since March 25, 2020. Only a few Air India flights are operated under “*Vande Bharat Mission*” to bring back Indians but not for tourism purposes. Similarly, in the case of domestic flights, though it got operated since May 25, 2020 only 33 per cent of flights were operated. And these flights were used by passengers only for emergency works not for any tourism activities.

The outbreak of the COVID-19 pandemic has created a socio-economic impact not only on the vulnerable communities in many countries but also have a wider sectoral impact, creating challenging and tough livelihood consequences. The integrative literature formulated by the author shows how hard the pandemic on the poor, downtrodden, vulnerable group compelling them to stay in the loop of social distancing and lockdown. It has been regarded as the most catastrophic phenomenon in the 21st century shaking the socio-economical value of the world community. In the UN report, Sumner et al. (2020) reported that, for the first time since 1990, global poverty would increase.

Due to the extreme pandemic impact of COVID-19, the study published by the WTTC globally, the potential risk was highly placed on hospitality, tourism, and travel, reflecting 30 per cent loose in employment with up to 100.8 million jobs in the industries concerned. The Indian tourism and travel industry employs some 87.5 million people, directly or indirectly. As per the annual report of the Ministry of Tourism, Government of India, this outbreak would render 40-50 million people unemployed. More than 50,000 tour operators have shut shop as there is no hope of revival anytime soon. The Indian tourism and hospitality sector is facing bankruptcies, unemployment, and the closing of companies due to the COVID-19. Several Indian hotels and online travel agencies, such as Treebo Hotels, Fab Hotels, Ixigo, MakeMyTrip, Marriott International, OYO, and Lemon Tree Hotels, have declared plans to slash salaries for senior managers and incorporate unpaid vacation choices to compete with the economic impact of the crisis.

Nearly 8-10 per cent of the overall workforce capacity of the foreign cruise liner consists of Indians and about 15-20 per cent of personnel across India's reputed hotel chains are contractual employees. These workers could encounter unemployment with the industry struggling financially due to COVID-19. The survival of employees in Indian amusement parks, who employ not only 80,000 individuals directly, but also 5000 people are employed seasonally and internally in order to target specific other industries is also threatened due to COVID-19. The key period for generating profit for these parks is ravaged because of the government's national lockdown and social distancing instructions.

The aviation industry is also predicted to witness job cuts in India because of worldwide travel bans to control the spread of COVID-19. More than 2.9 million high-risk workers are in Indian airspace and its industries as reported by the International Air Transport Association (IATA). The aviation industry in India has witnessed several layoffs. On July 20, domestic airline Indigo laid off 10 per cent of its staff. Similarly, state-owned Air India was reportedly looking to send some of its staff on mandatory leave for at least five years. The COVID-19 pandemic has also disrupted several activities, conventions, meetings, and trade fairs that have been suspended or temporarily halted, also various types of events such as sport, cultural and foreign relations, also impaired and tainted by the pandemic.

The hospitality and tourism industry is a labour-intensive industry contributing a major portion of the employment. This sector is a prominent source of direct and indirect employment and creating jobs for skilled and semi-skilled employees. The industry is also very helpful to many seasonal, part-time, and temporary workers. The pandemic effect of COVID-19, so harshly impacted during these times, which makes them unemployed and ultimately increasing the social unrest and poverty. This sector also assists many migrants, older people in remote areas, providing them the alternative solutions for employment. Across the globe, this pandemic crisis impacting the economy drastically and roughly has also created economic turbulence. The economic meltdown, unemployment, and liquidity issues have crunched the hospitality and tourism sectors to a larger extent. The effect of the epidemic is already being observed as job losses and layoffs in the industry have begun. Several travel, aviation, and hospitality organizations have written for temporary relief to the State.

The economic downfall during the current pandemic has severely damaged the people's backbone from every stratum of society. The migrant laborers from nooks and corners of the country are leaving and queuing up to their native places. In the current pandemic situation, according to the World Economic Forum, migrants stranded abroad trying

to cope with exigencies will succumb to the adverse conditions by engaging in low paying jobs with poor working conditions, minimize their spending, and eventually, risk getting exposed to infections like COVID-19 (Guermond & Datta, 2020). This pandemic will have a grave impact on the Indian economy as follows: (a) rising poverty, i.e. more people will fall under the below poverty line (Anser et al., 2020) (b) escalating social and economic inequalities (Mahendra Dev & Saini, 2020) thereby harming aspects of health and wellness; and (c) compromise on precautions related to health (masking, social distancing, seeking medical advice in the event of cough and fever).

India's social structure thrives on interdependence. Close physical encounters such as living in crowded conditions and other locations, jostling and pushing are extremely common and are deterrent to 'social distancing' as is evident in this pandemic. Crowding was evident in religious areas, in travel (Singh & Misra, 2020) or even in retail liquor outlets during the lockdown. Whereas 'vertical reach' in India is the cause of inequality, the 'horizontal gap' imposed in the wake of COVID-19 further exacerbated these disparities (Kaul, 2020).

The more worrying side is the lack of sufficient supply of Safety nets (e.g., food safety) for those most seriously affected by lockdown. In India, morbidity and mortality due to COVID-19 are primarily due to co-morbid conditions such as non-communicable diseases such as hypertension, diabetes, or cardiovascular disease (Gupta et al., 2020; Singh et al., 2020). In various forms, COVID-19 has the ability to cause threats to health and health systems in India (Ghoshal et al., 2020), for example, used predictive models and reported that the lockdown span is directly proportional to the rise in diabetes disease among young and middle-aged people. The lockdown at home is also another major cause of the increase of weight gain among people in the society, during this pandemic COVID-19, because of poor physical activity, high consumption of snacks, and calorific diets. The economic slowdown also intensified the increased rate of malnutrition. The main cause of these problems is the lack of daily wages and jobless among the middle and lower-middle-class people of society to buy the basic essentials and foodstuffs to meet their daily needs. Hence the more vulnerable groups coming under this category are children and pregnant women. Mental wellbeing is some of the toughest effects on the hospitality and tourism industry's workforce. As a consequence of the lockdown (Moses, 2020; Mail Today Bureau, 2020) increased chronic stress, depression, anxiety, self-harm, alcohol dependency, and increased domestic violence have been identified.

Impact on Other Sectors linking to Tourism

India was an attractive place for medical tourism for the Middle East and South Asian countries. After this pandemic that scope is being destroyed. Even if flight operations will resume in these countries, it will not attract patients from those countries to our hospitals for some years to come. There are various stakeholders involved in the tourism industry. Any change in the tourism industry will affect all the stakeholders. Apart from hotel and big travel industries, lots of small vendors and local tribal or rural communities who sell their products to tourists and survive facing major problems. For them, survival has become a question mark. Tribal and rural tourism is affected severely. Tribal tourism which was promoted to protect tribal culture while sustaining tribal livelihoods is highly affected. It has not only affected tribal livelihoods but also raised questions on the existence of its culture.

The business and trade in the handicraft and handloom sectors which are mostly dependent on tourism faced serious impacts of COVID-19. This sector is considered as a Rs. 24,300 crore industry in India and contributes nearly Rs. 10,000 crores annually in exports. In the last financial year, while the handicraft sector generated Rs. 36,7898 crores through exports and Rs 12,678 crores in the domestic markets, the handloom sector generated Rs. 2,280.18 crores in exports and Rs. 2,75,000 crore in domestic sales. India's handicraft exports assume to fall 40 per cent. As demand from key markets in the US, the UK, and EU countries continues to be low due to the COVID-19 crisis, it is expected that it may fall to \$2.1 billion in FY21 from \$3.53 billion in the previous fiscal (*Business Line*, June 30, 2020).

Artisans and weavers are some of the poorest people in India. Most of their products are “non-essential” for which they are getting less or no visibility despite efforts by the state. They are usually attached to tourist places where they, directly and indirectly, sell their products. Since February almost all exhibitions got canceled. Wholesale businesses have shut down due to which payments to artisans are pending. Due to the travel ban in all most all parts of the country till May 30, 2020 painters and artisans failed to travel to procure their raw materials. Weavers lost income and there was uncertainty as to when they would start again in the absence of commodities and capital expenditures. Right now, it looks like the toughest and longest struggle for survival for the handloom and handicraft artisans without hope in the near future. Though there is a scope to shift to the online market to sell their products, it is not feasible in all cases. Like the Tribal Development Co-operative Corporation of Odisha Limited, the state-run agency that markets tribal crafts is not having any online platform to sell products, which has worsened the situation.

Most of the smaller travel agencies, who are finding it difficult to operate, are considering shutting down operations temporarily. Travel has reduced drastically. MakeMyTrip, India's biggest online travel company cut the salary of its employees. Places like religious tourism are highly affected. Priests in most of the temples suffered economically as these remained closed since the day of lockdown. They are not in a position to shift to any other business. Small vendors and auto-rickshaw drivers are other stakeholders who are highly affected by the pandemic. They are mostly belonging to lower economic groups. Their economy mostly depends on tourists' visits. Since mid-March all most of the tourist places are closed, they are highly affected. Most of them have shifted their business as a coping mechanism to survive. Local communities leaving around the tourist places are also another stakeholder who got affected due to this pandemic. They usually depend on tourist visits. Since days of lockdown, they are staying idle without any income. Beggars who begin various religious places and survive are going to extinct from the earth if don't get adequate support from government and civil societies.

The tourism industries in the state of Odisha which is having ample opportunities for tribal, religious, and ecotourism have also suffered a lot like any other state in India. Odisha has a huge status of identified popular tourist destinations, and the statistical records of the tourist departments reveal that there is 357 number of identified and explored tourist destinations scattered across the 30 districts of Odisha. To meet the food and accommodation of the visitors and the tourists, about 1906 hotels including star and non-star categories, having 39,917 rooms of different types and prices and having 79,978 beds were available during the year 2018 (Table 1). According to the hotel room rent and tourists market segments, the Hotel and Restaurant Association of Odisha (HRAO) has categorized the hotel rooms into i. low spending group (LSG), having room tariff upto Rs. 900, ii. middle spending group (MSG), room tariff from Rs. 900 to Rs. 1800, and iii. high spending group (HSG), the room tariff is more than Rs. 1800. Apart from this, the golden triangle circuit of Odisha (comprising Bhubaneswar, Puri, and Konark, the most iconic heritage sites) attracts a lot of domestic and international tourists every year. But the pandemic COVID-19 has played havoc on Odisha's tourism and hospitality industry. Puri has 594 hotels (both star and non-star), the capital city Bhubaneswar has about 290 hotels (out of which 13 are of star category) and Konark has 39 hotels. However, all these hotels are showing no occupancy from January 2020. Due to the pandemic, these important tourist sites have turned into isolated places with no tourists at all. The previous occupancy of hotels in these tourist spots was typically above 60 per cent. Majority of the hotels had shut down their operations, laid off their employees, and were struggling for survival. Similarly, many hotels had been converted into quarantine centers as per the state government guidelines.

Table 1: Yearly Hotel Position in Odisha

Year	No. of HSC Hotels/ Rooms/Beds	No. of MSC Hotels/ Rooms/Beds	No. of LSC Hotels/ Rooms/Beds	Total Hotels/ Rooms/Beds
2009	96/3833/7812	232/5219/10329	948/15910/30267	1276/24962/48408
2010	114/4320/8829	263/6165/12126	942/16046/30278	1319/26531/51233
2011	150/5727/11652	245/5721/11544	933/15843/29671	1328/27291/52867
2012	251/8813/17810	288/6399/13096	918/15558/29171	1457/30770/60077
2013	306/10381/21303	356/7540/15335	923/15428/29329	1585/33349/65967
2014	334/11303/23344	399/8120/16864	956/15950/30392	1689/35373/70600
2015	375/11903/25062	455/9219/18924	921/15264/29108	1751/36386/73094
2016	433/13625/28406	474/9079/18321	916/14970/28393	1823/37674/75120
2017	281/10481/21900	435/9327/18967	1142/18957/36487	1858/38765/77354
2018	295/10978/22971	462/9752/19963	1149/19187/37044	1906/39917/79978

Source: *Statistical Bulletin 2018-19*, Department of Tourism, Government of Odisha.

Steps Taken by the Government

The economic condition of the country has been greatly affected by the COVID-19 pandemic especially the hospitality and tourism sectors, which have witnessed up to 50 million jobs at risk. In order to overcome this crisis relief measures have been declared and implemented from time to time by the government.

A moratorium of six months has been granted to the stakeholders and promoters associated with the business of hospitality and tourism, even 12 months moratorium has been granted on all capital expenditures, loan repayments, long - term loans. Statutory dues have been waived for 12 months on licensing, real estate taxes, and taxation fees, permits, and renewal on behalf of central govt. have been deferred with GST. A 12-month waiver has been announced in the standard fire insurance premium and the rate of special fire hazards, loss of profits. Annual renewal of licenses which have been paid for in 2020 would be extended till the end of 2021 without an incremental fee or any extra charges. GST holidays for tour packages and all reservations made via online services for the civil aviation and hospitality sectors are initiated by the government authority for the resurgence of travel and tour agencies.

For the next 12 months, the provident fund contribution will be waived for all levels of

employees. Travel, tourism and hospitality sectors would be provided with a 12-month corporate tax holiday. The sector would be offered a stimulus package to recover and also support the sector for the near future, which also includes a workforce support fund to prevent job losses. Employees are permitted to deduct a fixed amount of Rs. 10,000 from their EPF accounts for up to six months. The contribution from ESI is to be postponed for 12 months. The ESI insurance must now be used to provide salaries to all coordinated employees for all cumulative days after availability of work and the Act must be revised urgently. Professional tax would be waived off for all businesses and personnel up to March 2021. The GST rates have been slashed for hospitality business operations for two to three years. At present large hotels are charging 12-18 per cent of GST on room rate and food and beverage services, hence by keeping in mind the present pandemic situation, With instant effect, the GST was brought down to 5-6 per cent. It has been proposed that up to 500 units of electricity and water would be supplied by the various categories of hotels, as directed by the government. To support heritage hotels a comprehensive package was to be thought through.

Concluding Observations

The COVID-19 pandemic will have a lasting effect on both the developed and fragile economies, particularly on the hospitality and tourism sectors. The pandemic has deeply affected the Indian tourism and hospitality industry as large scale cancellations stymied business and caused major financial losses to hotel chains, tourism operations, large travel and transport companies. As pointed out in this paper immediate relief measures, including financial, by the government would be essential to revive this sector. These efforts would have to include ensuring health safety (quarantine and sanitization included) for potential tourists who would wish to travel. Nature centric tourist sites may be promoted by state governments.

The pandemic may linger for some more time as speculated by scientists and virologists. The government must implement short-term relief measures and promote the cooperation of all stakeholders across the industry to mitigate the effect of COVID-19 on the tourism and hospitality industry as livelihoods of millions depend on it.

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