

ISSN : 2277-7245

Journal of  
Scheduled Castes & Scheduled Tribes Research  
and Training Institute (SCSTRTI)

Volume 60 ■ Issue 1 ■ June 2020

# ADIVASI

Scheduled Castes & Scheduled Tribes Research and  
Training Institute (SCSTRTI), CRPF Square  
Bhubaneswar, Odisha, India



Journal of  
Scheduled Castes & Scheduled Tribes Research  
and Training Institute (SCSTRTI)

---

■ Volume 60

■ Issue 1

■ June 2020

---

# ADIVASI

\* \* \*

**Impact of Pandemics on Tribal Culture of Odisha:  
With Special Reference to Covid –19**

*A. B. Ota*

\* \* \*

Scheduled Castes & Scheduled Tribes Research and  
Training Institute (SCSTRTI), CRPF Square  
Bhubaneswar, Odisha, India

June 2020

ISSN : 2277-7245

**Publisher**

Prof. (Dr.) A.B. Ota  
Advisor-cum-Director and Special  
Secretary, Scheduled Castes &  
Scheduled Tribes Research and  
Training Institute (SCSTRTI), CRPF  
Square, Bhubaneswar, Odisha, India

**Editor**

Prof. (Dr.) A.B. Ota  
Advisor-cum-Director and Special  
Secretary

**Subscription**

Adivasi is published twice a year.

*Inland:*

Annual subscription : Rs. 30/-

Single Issue: Rs. 15/-

*Abroad:*

Annual subscription : \$ 2

Single Issue: \$ 1

Printed at

Capital Business Service & Consultancy  
B-51, Sahid Nagar, Bhubaneswar-751007  
capital.a1press@gmail.com

© Copyright with Scheduled Castes & Scheduled Tribes Research and Training Institute (SCSTRTI). No part of the publication may be reproduced in any form without prior permission of Editor, Adivasi, Journal of Scheduled Castes & Scheduled Tribes Research and Training Institute (SCSTRTI), Bhubaneswar. However, the views expressed in the papers are those of the authors and not of the Editorial Board or Publisher.

## **EDITORIAL BOARD**

### *Patron*

**Mrs Ranjana Chopra**  
Principal Secretary  
ST & SC Development Department  
Government of Odisha

### *Editor*

**Prof. (Dr.) A.B. Ota**  
Advisor-cum-Director and Special Secretary  
SCSTRTI, Bhubaneswar

### *Associate Editor*

**S. C. Mohanty**  
Consultant (Research & Publications)  
SCSTRTI, Bhubaneswar

### *Members*

**Prof. Nirmal Chandra Dash**  
Former Professor, Fakir Mohan University  
Balasore, Odisha

**Prof. Deepak Kumar Behera**  
Vice Chancellor, Berhampur University  
Berhampur, Odisha

**Dr. Prasanna Kumar Patra**  
Associate Professor (Antropology), Utkal University  
Bhubaneswar, Odisha

**Dr. Mihir Kumar Jena**  
Lead Consultant, SCSTRTI  
Bhubaneswar, Odisha

**Dr. Bigyanananda Mohanty**  
Deputy Director, SCSTRTI  
Bhubaneswar, Odisha



**IMPACT OF PANDEMICS  
ON TRIBAL CULTURE OF ODISHA :  
With Special Reference to COVID -19**



# IMPACT OF PANDEMICS ON TRIBAL CULTURE OF ODISHA: With Special Reference to COVID - 19

## I

### HISTORY OF EPIDEMICS AND PANDEMICS IN INDIA

India, being a third-world country, has encountered a variety of epidemics and pandemics through time. Several accounts of influenza, cholera, dengue, smallpox and several others have been recorded throughout history; while we have been able to eradicate some; many diseases still continue to pose a threat to the community. It is not uncommon for sudden and rapid outbreaks to occur in India and many articles direct the cause for this in such developing countries being malnutrition, lack of sanitation and lack of a proper public health system (Rice *et.al*, 2000<sup>1</sup>, John, *et.al*<sup>2</sup>). Epidemics is an unusual occurrence in a community or region of disease, specific health related behaviour or other health-related events clearly in excess of expected

occurrence. It is a sudden, severe widespread outbreak of a disease pre-existing in the community.

Pandemics, on the other hand, refer to the worldwide spread of diseases. These are the global health problems that need to be addressed and treated viciously along with proper measures to avoid transmission to other countries. There have been a significant number of pandemics throughout history and in many instances; their control had been difficult because of the lack of a proper, working global surveillance system<sup>3</sup>. As far as India is concerned, there have been only two major, significant pandemics throughout history. While cholera had been predominant throughout the 19th century with increasing death tolls every year, the influenza pandemic came later on in the early 20th century<sup>4 5</sup>. The influenza pandemic

<sup>1</sup> Rice AL, Sacco L, Hyder A, Black RE. 2000. Malnutrition as an underlying cause of childhood deaths associated with infectious diseases in developing countries. *Bulletin of the World Health Organization*. 2000; 78:1207-21.

<sup>2</sup> John TJ, Dandona L, Sharma VP, Kakkar M. 2011. Continuing challenge of infectious diseases in India. *The Lancet*. 2011;15: 377(9761):252-69.

<sup>3</sup> Hughes JM, Wilson ME, Pike BL, Saylor KE, Fair JN, LeBreton M, Tamoufe U, Djoko CF, Rimoin AW, Wolfe ND. The origin and prevention of pandemics. *Clinical Infectious Diseases*. 2010 Jun15; 50(12):1636-40

<sup>4</sup> Ramamurthy T, Sharma NC. Cholera outbreaks in India. In *Cholera Outbreaks 2014* (pp. 49-85). Springer, Berlin, Heidelberg

<sup>5</sup> Mills, Ian D. "The 1918-1919 influenza pandemic-the Indian experience." *The Indian Economic & Social History Review*23.1 (1986):1-40.

was short but devastating and after a long time, quite recently, came yet another flu pandemic by the H1N1 strain<sup>6</sup>

Before the 20<sup>th</sup> century, the plague caused by rats was the recurring pandemic (there had been other pandemics though like cholera and small pox). There had been three big plague pandemics, the last being in the late 19<sup>th</sup> century. And rats were seen as responsible for the plague and they had spread it by travelling on ships. Two small articles by Sujit Mahapatra on 20<sup>th</sup> April<sup>7</sup> and 25<sup>th</sup> April<sup>8</sup> provides a glimpse of the history of Pandemics and the carriers all over the world.

In the last 100 years, flu became the new plague. Although the first influenza epidemic is recorded in the 16<sup>th</sup> century, the flu became pandemic from the time of the 1889-90 flu, now called the Russian flu. The Spanish Flu of 1918-19 was the most damaging as it infected a third of the entire population of the world with more people dying from it than from World War 1. Then followed the Asian Flu of 1957-58, the Hong Kong Flu of 1968-69 and, more recently, the Swine Flu of 2009-10, which ended up infecting more than a billion people and killing a few lakhs.

In the last 50 years, there has been another interesting pattern: pandemics originating in bats. It

started in 1976 with Ebola, which ravaged West Africa and killed 13,500 people; the Nipah virus of 1998 with a 78% fatality; and then the Coronaviruses of the last 20 years: SARS of 2002, which spread to 29 countries with 774 deaths; MERS in 2012 that spread to 28 countries resulting in 858 deaths; and of course COVID-19, the pandemic that has devastated the world more than anyone in this world today. The coronaviruses are also contagious viruses causing respiratory diseases like the flu. In fact, the Centers for Disease Control and Prevention (CDC) of the US estimates, three quarters of new or emerging diseases that infect humans originate in animals.

Scientists discovered the bat origins of certain viruses after the outbreak of SARS or Severe Acute Respiratory Syndrome in 2003. It was discovered that bats contain hundreds of other coronaviruses, a group of related viruses causing respiratory ailments ranging from harmless ones like the common cold to MERS that had a fatality rate of 34%. As they grow, (COVID-19 is a novel coronavirus or a new strain of the virus), the different strains infect bats, which seem to be co-evolving with the viruses. Hence, bats have powerful immune systems and do not fall sick. But when these viruses jump from them to other

---

<sup>6</sup> Mishra B. 2015 resurgence of influenza a (H1N1) 09: Smouldering pandemic in India?. Journal of global infectious diseases. 2015;7(2):56

<sup>7</sup> <https://odishabytes.com/pandemics-in-history-shipping-the-virus/>

<sup>8</sup> <https://odishabytes.com/pandemics-in-history-2-rats-and-the-plague/>

species such as a civet or a pangolin or a human, the result can be deadly, as we see now.

It seems, Ships have always played a significant role in pandemics in history. After all, as many of us now know, the word 'quarantine', was first used in the 14th century for ships that were made to wait for 40 days outside Venice before passengers were allowed to disembark. This is because the bubonic plague, which had wiped out about a third of Europe and a much of Asia, was supposed to have a 37-day period from infection to death. Hence, it was assumed that anyone healthy after 40 days was safe from infecting others.

Ships have historically been seen as the transporters of pandemics, when diseases travel across geographies as they have been used for international trade. The voyages of Christopher Columbus and others led to decimation of entire indigenous populations in the Americas with the spread of small pox, measles and the plague, which were foreign to the natives. This story continued till the 20th century with most pandemics. That is because the ships carried the rats that carried the plague. Therefore, elaborate protocols were followed earlier to ensure that ships were rid of rats.

The 21<sup>st</sup> century pandemics such as SARS and MERS unlike the plague were not spread by rats or rat flea, and air travel played a significant role in the transport of infectious diseases. At the same time, COVID-19 has brought the attention back to ships as they accounted for the first horror story of the epidemic outside China.

## 1.1 THE 19<sup>th</sup> CENTURY PANDEMICS

### First Cholera Pandemic (1817)

This is considered to be the first major epidemic of the 19th century in British-colonized India and was described as probably the most terrifying of all<sup>9</sup>. It is believed that the year 1817 had brought a very heavy rainfall leading to flooding which could have been the cause for such a rapid spread<sup>10</sup>. While the Europeans living in India then and the elite were not seriously affected, the slum dwellers and people in rural poverty were hit the worst<sup>11</sup>. This was probably due to the differences in living conditions, personal hygiene and practices.

### Second Cholera Pandemic (1829)

The second outbreak started around 1826 from Bengal and spread through the rivers to various parts of northern India. After affecting the United Provinces (UP), its impact was huge

---

<sup>9</sup> Arnold, David. 1986. 'Cholera and colonialism in British India' Past & Present. 113:118- 151.

<sup>10</sup> Collins, A. E. "The geography of cholera." Cholera and the Ecology of *Vibrio cholerae*. Springer, Dordrecht, 1996. 255-294.

<sup>11</sup> Pollitzer R, Swaroop S, Burrows W. History of the disease. Cholera. World Health Organization, Geneva, Switzerland.1959:11-50.

on areas around Punjab and Delhi but **most significant is its pandemic spread to countries like China**<sup>12 13</sup>. Cholera spread far and wide, all along the trade routes from China affecting several cities and villages alike. In each place, it lasted for a few weeks and killed hundreds of people every day<sup>14</sup>.

### **Third Cholera Pandemic (1852)**

The third cholera pandemic started around 1852 and lasted till the late 1860s. It is significant in history because of its spread to countries that were until then not affected. **Though India was not its major area of impact, in the later phase of pandemic, small spurts of cases were noted in Bengal.** It spread to several other countries like Persia, Arabia and then to Russia due to the worldwide spread of serotype of Vibrio which was initially endemic to India.

### **Fourth Cholera Pandemic (1863)**

This began around 1863. While some suggest that the major cholera epidemic in 1865 was brought to Mecca by the Haj pilgrims from India, others disagree stating that it was a just a recrudescence<sup>15</sup>. However, it is

agreed that it was from Mecca that the infection spread to several countries<sup>16 17</sup>. **The Kumbh Mela at Hardwar in April 1867 has been considered to be responsible for the epidemic spread of cholera in northern India**<sup>18</sup>. The Madras Presidency in 1877 was the worst hit and the cholera epidemic was responsible for about 10% of the annual mortality then<sup>19</sup>.

### **Fifth Cholera Pandemic (1881)**

The fifth cholera pandemic was considerably less fatal as compared to the previous four. It was during this pandemic (1881-1869) that Robert Koch proved that cholera was transmitted through the fecal-oral route, after studying the **outbreaks in Calcutta** and Egypt<sup>20</sup>.

### **Bombay Plague Epidemic (1896)**

This **plague began in September 1896 in colonial Bombay** creating a lot of social and political frenzy. The rapid growth of commerce in Bombay led to an increase in population and thereby overcrowding. The anti-plague campaign was started to battle this epidemic and it was based on the belief that the **focus of the infections**

---

<sup>12</sup> Pollitzer, Robert. 'Cholera studies:1. History of the disease '. Bulletin of the World Health Organization 10.3 (1954):421.

<sup>13</sup> Barua, Dhiman. "History of cholera." Cholera. Springer, Boston, MA, 1992.1-36

<sup>14</sup> Macnamara, Nottidge Charles. A history of Asiatic cholera. MacMillan,1876

<sup>15</sup> Omar W. The Mecca Pilgrimage: Its Epidemiological Significance and Control. Postgraduate medical journal. 1952;28(319):269.

<sup>16</sup> Bryceson, AD. Cholera, the flickering flame. (1977):363-365

<sup>17</sup> Lacey, Stephen W. Cholera: calamitous past, ominous future. Clinical Infectious Diseases 20.5 (1995):1409-1419

<sup>18</sup> Arnold, David." Cholera and colonialism in British India." Past & Present 113(1986):118- 151

<sup>19</sup> Whitcombe E, Famine mortality. Economic and Political Weekly (1993):1169-1179.

<sup>20</sup> Howard-Jones, Norman. Robert Koch and the cholera vibrio: a centenary. British medical journal (Clinical research ed.)288.6414 (1984):379

**was from the slums.** The plague killed thousands and many people were forced out of the city.

### **Sixth Cholera Pandemic (1899)**

The sixth cholera pandemic began around 1899 and **major outbreaks were noted in Bombay, Calcutta, and Madras**<sup>21</sup>. While the infection throughout the 20th century was caused by O1 serotype of *Vibrio cholera* and **confined mostly through the Asian subcontinent**, the sixth cholera pandemic brought about surprising challenges. The sixth cholera pandemic lasted for about 25 years (1899-1973)<sup>22</sup>.

## **1.2 THE 20<sup>th</sup> CENTURY PANDEMICS**

### **Influenza Pandemic (1918)**

This is also known as the Spanish Flu of 1918-19. This has been known to have caused around 20- 50 million deaths worldwide and is considered most devastating<sup>23</sup>. This was caused by the H1N1 strain of Influenza and was severe. The first episode of the disease began in early 1918 and later in autumn, it began to spread all

around the world, **India considered to be the foci**<sup>24</sup>. The second wave of the attack began in Bombay in 1918 and spread to other parts of northern India and Sri Lanka from where it spread worldwide<sup>25</sup>. Improvement in the virulence and velocity of the virus strain and the monsoon bringing humidity are considered to be the key factors in increasing the severity and spread<sup>26</sup>.

### **Polio Epidemic (1970-1990)**

**India was the worst affected by polio among the developing countries** until the late 1990s. The incidence of polio in India was very high in both urban and rural states and the most affected was the state of Uttar Pradesh<sup>27</sup>. But with improvement in surveillance, the desired results were achieved and India was declared polio-free status in January 2011 and emphasis has been laid on maintaining the guard to prevent resurgence<sup>28</sup>.

### **Small Pox Epidemic (1974)**

It is known as one of the worst small pox epidemics of the 20th century. **India contributed to about 85% of this epidemic worldwide. This**

<sup>21</sup> Ramamurthy T, Sharma NC. Cholera outbreaks in India. In Cholera Outbreaks 2014 (pp. 49-85). Springer, Berlin, Heidelberg

<sup>22</sup> Kaper JB, Morris JG, Levine MM. Cholera. Clinical microbiology reviews. 1995 1:8(1):48-86

<sup>23</sup> Colwell, Rita R. "Global climate and infectious disease: the cholera paradigm." Science 274.5295 (1996):2025-2031.

<sup>24</sup> Johnson NPAS, Mueller J. Updating the accounts: global mortality of the 1918-1920" Spanish" influenza pandemic. Bull Hist Med. 2002; 76:105-115

<sup>25</sup> Chandra S, Kassens-Noor E. The evolution of pandemic influenza: evidence from India, 1918-19. BMC infectious diseases. 2014; 14(1):510

<sup>26</sup> Johnson NPAS, Mueller J. Updating the accounts: global mortality of the 1918-1920" Spanish" influenza pandemic. Bull Hist Med. 2002; 76:105- 115

<sup>27</sup> John, T. Jacob, and Vipin M. Vashishtha. Eradicating poliomyelitis: India's journey from hyperendemic to polio-free status. The Indian journal of medical research 137.5 (2013): 881

<sup>28</sup> Patterson K D, Pyle G F. The geography and mortality of the 1918 influenza pandemic. Bull Hist Med. 1991; 65:4-21.

**epidemic broke out in three different villages of West Bengal, Bihar and Odisha** but it was impossible to establish a connection between them and hence it was treated as three different epidemics. The disease was introduced into different areas by different sources. While over 15,000 people died in this epidemic, thousands of the survived but most ended up with disfigurement and blindness<sup>29 30</sup>. Small pox was the first disease to be combated globally and was declared eradicated by WHO in 1980<sup>31</sup>.

#### **Surat Plague Epidemic (1994)**

Plague cases in Surat were first reported in Sept 1994 and which it spread to other cities in India. Fewer than 1,200 people were found positive and it lasted for less than two weeks but it is considered important due to its high fatality and created worldwide repercussions. It is said to have been initially difficult for doctors to diagnose it but when they did, all necessary precautions are taken to contain its spread<sup>32 [37]</sup>.

## **1.3 THE 21<sup>st</sup> CENTURY PANDEMICS**

### **Plague of Northern India (2002)**

The Plague of Northern India broke out in Shimla district of Himachal Pradesh in February 2002. It was a small and less serious epidemic. Also, as soon as the plague was detected, immediate measures were taken like fumigation, evacuation, and chemoprophylaxis that lead to further control of the epidemic<sup>33</sup>.

### **Dengue Epidemic (2003)**

In 2003 during September, there occurred an outbreak of Dengue Fever in Delhi. It reached its peak around October-November and lasted until early December. The mortality rate was around 3%. It became a major outbreak in India in spite of the widespread preventive measures taken to control Dengue Fever<sup>34</sup>.

### **SARS Epidemic (2003)**

SARS (severe acute respiratory syndrome), is considered as the first serious infectious disease outbreak of the twenty-first century. **It initially**

---

<sup>29</sup> John TJ. Understanding the scientific basis of preventing polio by immunization. Pioneering contributions from India. Proc Indian Natl Sci Acad.2003; B69:393-422

<sup>30</sup> The control and eradication of smallpox in South Asia, Internet Archive, 2018, Available from: <https://web.archive.org/web/20081019023043/http://www.smallpoxhistory.ucl.ac.uk>

<sup>31</sup> Greenough P. Intimidation, coercion and resistance in the final stages of the South Asian small pox eradication campaign, 1973-1975. Social science & medicine.1995;41(5):633- 45

<sup>32</sup> Fenner F. Global eradication of small pox. Reviews of infectious diseases.1982;4(5):916- 30

<sup>31</sup> Greenough P. Intimidation, coercion and resistance in the final stages of the South Asian small pox eradication campaign, 1973-1975. Social science & medicine.1995;41(5):633- 45

<sup>32</sup> Fenner F. Global eradication of small pox. Reviews of infectious diseases.1982;4(5):916- 30

<sup>33</sup> Dutt, Ashok K., Rais Akhtar, and Melinda McVeigh. Surat plague of 1994 re- examined. Southeast Asian journal of tropical medicine and public health 37. 4(2006):755

<sup>34</sup> Gupta, Manohar Lal, and Anuradha Sharma. Pneumonic plague, northern India, 2002. Emerging Infectious Diseases13.4 (2007):664.

**started in the Guandong province of China in 2003 and spread quickly to about 30 countries across Asia, Americas and Europe** and accounted for a total of 8,439 cases and 812 deaths, within 7 to 8 months<sup>35 36</sup>.

### **Meningococcal Meningitis Epidemic (2005)**

In early 2005, a sudden surge had been noted in meningococcaemia and meningococcal meningitis cases in India. Cases were reported from Delhi and the surrounding states of Uttar Pradesh and Maharashtra. Case management, early detection through surveillance was aimed at prevention of spread<sup>37</sup>.

### **Chikungunya Outbreak (2006)**

Around 3.4 million cases of Chikungunya were reported in Ahmedabad 2006. In December, there occurred another epidemic in South India where the states of Andhra Pradesh, Karnataka and Tamil Nadu were affected. The volatile nature of this epidemic was attributed to the herd immunity to the then isolated genotype<sup>38</sup>. Major efforts were taken

for mosquito control and several awareness campaigns were initiated by the television and print media<sup>39</sup>.

### **Dengue Outbreak (2006)**

The outbreak began in early September of 2006 and the first case was reported from Delhi. By the end of September, it began to spread to other states like Rajasthan, Kerala, Gujarat, Chandigarh and Uttar Pradesh<sup>40</sup>. The ministry of health set up a control room to monitor the outbreak and provide technical assistance that led to the efficient management of the disease.

### **Gujarat Jaundice epidemic (2009)**

Modasa town in Gujarat witnessed the outbreak of hepatitis B in 2009<sup>41</sup> This is of significance because almost all outbreaks of viral hepatitis in India were considered to be due to hepatitis E which is feco-orally transmitted [50]. It was a long-lasting epidemic and control was achieved by mass public awareness and health actions.

### **H1N1 Flu Pandemic (2009)**

The H1N1 Flu pandemic began in May 2009 and spread globally by July 2009.

---

<sup>35</sup> Singh N P, Jhamb R, Agarwal S K, Gaiha M, Dewan R, Daga M K, Chakravarti A, Kumar S. The 2003 outbreak of dengue fever in Delhi, India. *Headache*. 2005 1; 114:61

<sup>36</sup> Dikid, T. Emerging & re-emerging infections in India : An overview. *The Indian journal of medical research* 138.1 (2013): 19

<sup>37</sup> Manchanda V, Gupta S, Bhalla P. Meningococcal disease: History, epidemiology, pathogenesis, clinical manifestations, diagnosis, antimicrobial susceptibility and prevention. *Indian J Med Microbiol* 2006;24:7-19

<sup>38</sup> Mavalankar D, Shastri P, Bandyopadhyay T, Parmar J, Ramani KV. Increased mortality rate associated with chikungunya epidemic, Ahmedabad, India. *Emerging infectious diseases*. 2008;14(3):412

<sup>39</sup> Kaur P, Ponniah M, Murhekar M V, et al. Chikungunya outbreak, South India, 2006. *Emerg Infect Dis*. 2008;14(10):1623–1625. doi:10.3201/ eid1410.07056

<sup>40</sup> Mavalankar, Dileep, Priya Shastri and Parvathy Raman. "Chikungunya epidemic in India: a major public-health disaster." *The Lancet infectious diseases* 7.5 (2007):306-307

<sup>41</sup> Nationwide data on outbreak, *The Hindu*". Chennai, India. 9 October 2006. Archived.

By August 2010, it was declared pandemic. Three strains of influenza viruses were circulating then.

### **Odisha Jaundice Epidemic (2014)**

The **outbreak began in November 2014 in Kantalbai, a remote village in Odisha**. This led to a district level investigation and it was confirmed to be jaundice caused by the Hepatitis E virus<sup>42</sup>. **This 2014 Odisha Jaundice epidemic was one of the many outbreaks in Odisha and the most common cause being HEV<sup>43</sup>**. This is transmitted enterically and has affected several people, especially of the low socioeconomic category. Surveillance for clean water and sanitation was proposed as the control measure<sup>44</sup>.

### **Indian Swine Flu Outbreak (2015)**

It refers to the outbreak of the 2009 H1N1 flu pandemic in India which was still present as of March 2015. This outbreak in 2015 is considered as a resurgence of the infection and the

most plausible reasons are considered to be low temperature, decreasing host immunity and failure of vaccination campaign after 2010<sup>45</sup>. According to the NCDC data in India, Rajasthan, Maharashtra, and Gujarat were the worst affected states in India during this pandemic.

### **Nipah Outbreak (2018)**

The virus was first noted in the late 1990s in Singapore and Malaysia. The natural host for this disease is the fruit bat and transmission is from direct person to person contact [60]. This Nipah virus outbreak began in May 2018 in Kozhikode District, Kerala. This is the first Nipah virus outbreak reported in Kerala and the third known to have occurred in India, with the most recent previous outbreak being in 2007<sup>46</sup>. Spread of awareness about this infection, isolation of the infected and post-outbreak surveillance led to the control of this outbreak.

---

<sup>42</sup> Dangi T, Jain B, Singh AK, Mohan M, Dwivedi M, Singh JV, et al. Influenza virus genotypes circulating in and around Lucknow, Uttar Pradesh, India, during post pandemic period, August 2010-September 2012. *Indian J Med Res.* 2014; 139:418–26

<sup>43</sup> Integrated Disease Surveillance Programme (IDSP). National Center for Disease Control, DGHS, MOH & FW, Government of India. *Disease Outbreak Reported and Responded by States.* 2012. <http://www.idsp.nic.in>

<sup>44</sup> Kelly R. *India Weekly Outbreak Reports 2013.* Emerging Disease and Other Health Threats Winnter Park, Florida: Flutrakers.com, Inc. 2015 <https://flutrakers.com/forum/forum/india/india-emerging-diseases-and-other-health-threats/158406-india-weekly-outbreakreports-2014>

<sup>45</sup> Paul, Sourabh, et al. "Investigation of jaundice outbreak in a rural area of Odisha, India: Lessons learned and the way forward." *Community Acquired Infection* 2.4 (2015):131

<sup>46</sup> NCDC, Ministry of Health (2019), H1N1 Swine Flu- number of cases and deaths from 2012-2019 Data. Available from: <https://ncdc.gov.in/showfile.php?lid=280>

## II

### **HISTORY OF EPIDEMICS IN TRIBAL ODISHA**

There is hardly adequate accessible comprehensive literature to understand the history of epidemics, their impact, prevention and eradication in the context of tribal Odisha. There are, however, sporadic literature indicating how the tribal people perceive sickness and epidemics as manifestation of the wrath and anger of malevolent deities or spirits. The diseases and epidemics were then, and have been now, addressed through many religious and magico-religious practices based on the speculations of the priests, shamans, magico-religious healers and such others who are believed to be capable of making direct connection between the members of the community and the gods, goddesses, ancestral spirits, natural influences, etc. There is also some sporadic literature on the treatment practices, ethno-medicine and drug administration in case of certain common and uncommon diseases, but indications on comprehensive healthcare system to prevent, fight and abate an epidemic by the tribal communities of Odisha are hardly found in the accessible and available literature. Therefore, in this attempt, it has been tried to exhaustively use the available resources to develop a historical connection between epidemic management in tribal

Odisha and the current case of managing Covid 19.

An Indian Council of Historical Research Scholar – Susanta Barik provided an appealing review of the epidemic management during the Colonial and pre-Colonial times. The review has also cited cases of certain tribal communities in Odisha in connection with epidemic occurrence and its management in tribal areas of the state. Following are excerpts from his article - Disease and Medicine in the Colonial Odisha during 19th Century

The British began to face health problem as the climate of Odisha was different from other parts of British India. At the initial stages the British tried their best to save from various epidemic diseases. During late 19th century the British took measures to prevent different kinds of diseases like Smallpox, Cholera, Malaria, Diarrhoea, and Kalazar. Smallpox had endangered the lives of the native people as well as the Europeans. Many among the Europeans either died or left the state because of the epidemic diseases. However, the British settled down in every nook and corner of the state and began to look after the sick people. They were also given detailed information about flora and fauna and cultural practices of the new territory. They gradually began to redefine the things which they saw in terms of their own territory and perception. Their work encompassed not only the understanding and possible conquest of new disease but also extension of

western cultural values to the rest of the world (Pati, 2001<sup>47</sup>, Barik, 2015<sup>48</sup>).

During Pre-Colonial period these epidemic diseases were there but their treatment was very much localised. The people were lacking communication as well as modern medical facilities. Generally, people were using the traditional medicine. Besides, there were native medical practitioners Kaviraj or Vaidyas who preferred to practise medicine according to the rules laid down in the Hindu religious books (Shastras)<sup>49</sup>. It also appears that in most part of the tribal Odisha the people used plants, herbs, different body parts of birds and animals as medicine for curing diseases.

Another interesting aspect was that there has been an age-old belief among the tribes that some sickness, disease, wounds and accidents are caused by the evil spirit of the jungle and to get cure from it, the malevolent spirit has to be propitiated. Following this belief, the people offers some meat, rice beer, fowl or bird etc. to the spirit and this is said to cure the person. Such a belief in malevolent spirit is common not only among the tribal people of the world but also most of the rural areas of the world. But at the same time the belief in the evil spirit and ghost continues side by side (Pati, 2001, p.15)

It is also a fact that introduction of modern medicine and implementation of vaccination policy in Odisha by Europeans was a challenge for them. The people in Odisha were not ready to accept it as they were preoccupied with their traditional superstitious beliefs. It was in the late 19th century Pasteur Koch and other made advances in bacteriology and installed confidence among British medical men in India that epidemic disease could be prevented by western scientific knowledge. It was during this period Kalazar first appeared in the **Kutia tribes in 1869**. Odisha had already become a hunting ground for deadly epidemic diseases like Cholera, Smallpox and Malaria fever. Smallpox was a devastating misfortune. It was a highly contagious viral disease. It killed severely large numbers and seriously maimed survivors through sever scarring of the skin with pockmarks, blindness and infertility. During 19th century Smallpox was one of the main epidemic diseases in Odisha. Mortality rate with this disease was very high and it mainly affected the poor section of society. Another dreaded epidemic disease was defined as 'malaria'. It was essentially an economic disease sapping the vigour and physique of the community. It lowers one's vitality thereby preparing the ground for other

---

<sup>47</sup> Pati Biswamoy, 2001. *Situating Social History, Orissa (1800-1997)*, Orient Longman, New Delhi, p.14

<sup>48</sup> Barik, S, 2015 *Disease and Medicine in the Colonial Odisha during 19th Century*, *Odisha Review*, September 2015, p. 25-27

<sup>49</sup> Iris Bruijn, 2009. *Ships Surgeons of the Dutch East India Company: Commerce and the Progress of Medicine in the Eighteenth Century* (Amsterdam University Press), p-55

disease like Tuberculosis etc. It is pointed out that Malaria fever and to a greater extent Cholera became a highly political disease which threatened the slender basis of the critical point of intervention between colonial state and indigenous society. Throughout the colonial rule, Cholera leaked across all the preventive hurdles and caused epidemic havoc all over Odisha. As the British were unable to control the diseases, they frequently resorted to blame the natural obstacles and opium eating habit of the native for the spread of the disease (Tahir, 2013, p.3). Although the western medical discourse answer to Malaria was quinine. This method was applied in Odisha and quinine was sold through the agency of post offices. However, this was totally inadequate to curb the menace of Malaria. It had little impact on the indigenous system of Malaria treatment. In the indigenous treatment for the fever, capsicum, borak, mace and papal ground mixed together with lime juice and of which one rate weight (about two gram) was given three times a day with juice of green ginger. A similar preparation, but mixed with goat urine was also prescribed in cases of fever. In the case

of Kala-zar, since its etymology was unknown prior to 1903, the western medical science had failed to prevent the disease. The indigenous practices had hegemonic challenge to deal with the western medicine in Odisha. In some cases, the Kalazar disease was successfully treated by traditional doctors. **Through the process of colonization of Odisha modern medicine compelled the indigenous practitioners to rethink about their own system.** Institutionally the process was revived by the western scholars. However, the greatest obstacle for the survival and spread of indigenous medicine was strong dislike on their knowledge to the Kaviraj and Vaidyas to pass on their knowledge to the upcoming generations (Tahir, 2013. P-4).

Another scholar in history, Samuel Limma<sup>50</sup> provided an interesting reading on probing Small pox and Cholera in Mayurbhanj district during 1905 to 1960. The scholar has made an effort to explore the public health scenario of the people and probing how the colonial public health system functioning in the specific disease and particular region, e.g. smallpox<sup>51</sup> and cholera<sup>52</sup> in the context of a tribal

---

<sup>50</sup> Limma, S. 2015. People and Public Health: Probing Smallpox and Cholera in Mayurbhanj of Odisha, 1905-60, Odisha Review, October 2015. P. 60-65

<sup>51</sup> The disease is also known by the Latin names Variola or Variolavera, derived from varius ('spotted') or varus ('pimple'). The last naturally occurring case of smallpox (Variola minor) was diagnosed on 26 October 1977

<sup>52</sup> Cholera is an infection of the intestine by the bacterium *Vibrio cholerae*. This may result in sunken eyes, cold skin, decreased skin elasticity, and wrinkling of the hands and feet. The dehydration may result in the skin turning bluish. Symptoms start two hours to five days after exposure

region like Mayurbhanj of Odisha. Mayurbhanj was a princely state before merging with the Indian state of Odisha in 1948, it was situated on the south of the then Chhotnagpur region, on the south-west of Bengal and north of Odisha Province. The north-west region is covered by Similipal mountain area. Majority of the people of this region belong to Santhal tribal community, the people of this community is living both in the hill and plain areas.

Sitala or Sital Puja during the months of April-May is a tribal ritual in northern Odisha that is conducted to secure overall well-being of the communities from dreaded diseases and epidemics. The small pox was a known epidemic of the past and its treatment means appropriate actions to cool down (*sitala*) the anger and wrath of the malevolent spirit who inflicted the disease. The Ayurvedic texts also provide evidences to the processes and practices related to *sitala* as a treatment to cure fever during small pox. The term *sitala* had been used in Bhavaprakasha in connection with the cold treatment for the fever that accompanied smallpox<sup>53</sup>. The goddess Sitala Devi<sup>54</sup>, it was believed,

made her presence known through eruptions and to thwart her was to incur her displeasure. She was therefore pacified by cooling offerings. To counter smallpox, inoculation had long been in use in India (Ramanna, p. 126).

Smallpox epidemics were customarily treated as major events in South Asia, receiving the attention of the ruling elites, government agencies, medical practitioners, civilian commentators and ordinary people. The disease evoked widespread fear, and it is important not to ignore this fact. British officials in colonial India were aware that smallpox could transcend racial and geographical barriers, even if they were often unsure about why this was so<sup>55</sup>.

Cholera known as mainly a water-borne disease, originated in India. It was one of the most frequent epidemics in eastern India. In India, the occurrence of cholera was attributed to the wrath of the cholera deity for violation of Hindu religion by slaughtering cattle for feeding British troops camped in a sacred grove<sup>56</sup>. The modern history of cholera begins from 1817 when it first attracted

---

<sup>53</sup> Ramanna, M. *Western Medicine and Public Health in Colonial Bombay: 1845-1895*, Orient Longman Private Limited, New Delhi, p.125-126

<sup>54</sup> Arnold, D. *Colonizing the Body: State Medicine and Epidemic Disease in Nineteenth Century India*, University of California Press, Berkley, p.125

<sup>55</sup> Bhattacharya, S., Harrison, M., Worboys, M. 2005. *Fractured States: Smallpox, Public Health and Vaccination Policy in British India 1800-1947*, Orient Longman Private Limited, New Delhi, p.1

<sup>56</sup> Ray, K., 1998. *History of Public Health: Colonial Bengal 1921-1947*, KB Bagchi & Company, Calcutta, 1998, pp. 61, 62.

attention by its fearful ravages in Jessore<sup>57</sup> and soon ran its **pandemic** course within two years over the whole world. The report 1920 on the nature of this disease, prepared by Dr James Jameson in compliance with the orders of the Indian Government, proved that cases of the so-called cholera morbus had been known to end fatally (Ray, 1998, p. 62).

Both the two diseases smallpox and cholera were significant because the people unusually and unknowingly suffered in large numbers. The colonialists partially succeeded to check the fatal diseases, then the free India government also applied the same policy which is prevalent till now.

The paper presents accounts on the results of simultaneous occurrence of two epidemics - Small pox and Cholera in Mayurbhanj district. Based on archival official data the paper finds three major periods when the Small pox outbreak happened in Mayurbhanj i.e. during 1904-05 to 1919-20; during 1925-26 to 1934-35, and during 1955-56 to 1960-61. Similarly, the outbreak of Cholera in two major periods i.e during 1904-05 to 1910-11, and during 1995-96 to 1960-61. The last naturally occurring case of smallpox (*Variola minor*) was diagnosed on 26 October 1977. The

epidemic could be controlled by extensive vaccination and prophylactic measures. During the spread of epidemic when the Colonial government faced problems of outreach to cure the patients, it indirectly encouraged application of local medicines – Ayurveda and folk medicine prescribed by the *Kaviraj* and tribal folk-healers. The recompilation of data presented in the paper has been cited here to understand the gravity of the situation in Mayurbhanj during the visit of the two epidemics. The data indicates that the Small Pox had attained its peak in 1934-35 while the Cholera attained peak in 1908-09 with corresponding highest deaths in the said years.

The author argues that 'during the period under study both in the colonial and post-colonial period, the health scenario remained same like uneven advance both under the colonialists and post-colonial times even in the two five-year plan periods. It is really no doubt that vast number of lives could be saved due to the British medical or health care policy. But the health scenario had not changed phenomenally over the period and also even after 1947'.

A similar study on Anthrax outbreak in Koraput region has been published by Nayak *et.al.*<sup>58</sup> in their article on 'A

---

<sup>57</sup> Jessore is a district in the southwestern region of Bangladesh. It is bordered by India to the west, Khulna District and Satkhira District to the south, Magura and Narail to the east, and Jhenaidah District to the north.

<sup>58</sup> Nayak, P., Sodha, S.V., Laserson, K.F. *et al.* A cutaneous Anthrax outbreak in Koraput District of Odisha-India 2015. *BMC Public Health* 19, 470 (2019). <https://doi.org/10.1186/s12889-019-6787-0>

Small Pox			Cholera		
Year	Cases	Death	Year	Cases	Death
1904-05		30	1904-05		50
1905-06		8	1905-06		305
1906-07		17	1906-07		134
1907-08		9	1907-08		208
1908-09		24	1908-09		1116
1909-10		22	1909-10		12
1910-11		62	1910-11		36
1914-15	246				
1917-18	315	14			
1919-20		202			
1925-26	1063	118			
1926-27	4712	648			
1933-34	1887	563			
1934-35	12506	1112			
1955-56	37	06	1955-56	06	02
1956-57	51	09	1956-57	20	10
1957-58	374	117	1957-58	68	23
1958-59	292	32	1958-59	208	89
1959-60	314	48	1959-60	48	16
1960-61	51	09	1960-61	0	0

Source: Samuel Limma, 2015

Source: Samuel Limma, 2015

cutaneous Anthrax outbreak in Koraput District of Odisha-India 2015'. The study reported on a cutaneous anthrax outbreak mostly among males in a tribal community of Koraput district, Odisha. This community has a history of recurrent anthrax outbreaks that occur seasonally, from April to June. Investigation by the authors demonstrated clustering of human cases in areas of animal deaths with human illness strongly associated with eating and handling the carcasses of ill cattle, low vaccination coverage of livestock and inadequate carcass

disposal practice in affected sub-districts likely contributed to the outbreak and to the ongoing risk in the community.

The study states that 'Anthrax continues to be enzootic in under-developed areas of the world lacking adequate preventive measures. Rapid diagnosis, isolation, treatment with antimicrobials and other adjuvant therapies among human anthrax cases and measures against transmission are essential to minimize disease progression and to help control outbreaks quickly and effectively.

With 1% prevalence of culture positivity among outbreak household cattle, Koraput district has endemic livestock anthrax and inadequate vaccination coverage; these factors likely contribute to continuous transmission of anthrax in this region'.

Further, socio-cultural practices such as slaughtering of sick animals, eating or handling meat from infected animals, and dumping of dead carcasses in the open have contributed to anthrax transmission in outbreaks reported from Africa and Southeast Asian countries. Scavenging carcass meat for consumption is culturally acceptable to some of the local tribes in Koraput district and is associated with anthrax transmission. Low socio-economic status and poor education of the tribal community combined with poor public health infrastructure creates a synergy of risk factors that are conducive for zoonotic transmission of anthrax to the human population. Increasing the tribal community's awareness about risk factors for illness may help avert future outbreaks. As part of the response to this outbreak, health education camps were organized to sensitize the community on behavioral change for anthrax prevention. All the villagers were educated through simple health messages from the community health workers such as "not to handle the sick animal without protection," "safe disposal of dead animal with disinfection," "not to consume raw meat," "cook it well before eating," etc.

According to the study, in previous outbreaks, delayed reporting of ill persons and poor community awareness about the illness were important risk factors for continued transmission of infection. Furthermore, unreported livestock deaths and seasonal variation of anthrax transmission in the district may also contribute to the persistence of outbreaks. Lack of anthrax culture capacity or other diagnostic methods in the district laboratory limits detection of anthrax in animal, human and environmental samples. There is need to strengthen the laboratory surveillance system at the district level both for animal and human health, and the building of a more reliable sample transportation and communication system. The lag-phase between reporting of the outbreak and the specimen sample collection often leads to delayed diagnosis and confirmation of the outbreak.

The study also provides insights for management of the outbreak of epidemic. After outbreak detection, enhanced skills in field epidemiology are necessary for rapid response and thorough investigation. India is actively working toward improving epidemiologic capacity quantitatively and qualitatively. In 2012, the India Epidemic Intelligence Service (EIS) programme was launched by India's National Centre for Disease Control, Delhi in collaboration with the United States Centers for Disease Control and Prevention. This 2-year intensive training in field epidemiology aims to increase the number of public health

professionals with specialized skills to investigate outbreaks with analytical epidemiology. This outbreak investigation was led by an EIS officer and demonstrates the benefit of applying these skills in India to better understand active public health problems and guide evidence-based interventions.

The authors provide to understand that the epidemiology of anthrax involves human, animal, and environmental health. The One Health approach integrates and synergizes these multiple disciplines toward disease control and prevention strategies of zoonotic diseases such as anthrax. The authors used this outbreak investigation as an opportunity to strengthen the inter-sectoral coordination between the human and animal health departments in the district. After the outbreak was identified among human cases, the animal health department was engaged to trace the tracks and hides of infected animals, treat infected animals, and immediately destroy dead carcasses. While surveillance for human cases was ongoing, the dispatching and transaction of livestock from the area was stopped. Such coordination between animal and human health departments, as is promoted under the Global Health Security Agenda, will facilitate early case detection, control, and prevention of zoonotic disease outbreaks in the future, the authors opined.

Adding to the above, the authors are

of the view that seasonality of anthrax outbreak is a complex phenomenon. Several studies have hypothesized that seasonality, climate conditions and/or human activities are associated with anthrax outbreaks, but there is minimal evidence about their association. However, outbreak patterns vary from region to region based on the diverse predisposing environmental conditions existing in the area. The majority of the anthrax outbreaks in India are reported between the months from September to January (post-monsoon). In contrast, the investigation of historical anthrax cases in Koraput showed a predominance of cases occurring from April to June (pre-monsoon). Anthrax is a re-emerging disease of public health importance in India. Livestock vaccination, surveillance for early case detection, and education among the community regarding animal to human transmission and carcass disposal is crucial for prevention, detection, and control of outbreaks. The vaccination strategy of animals should expand to larger geographic areas with more comprehensive goals to vaccinate more livestock and variety of livestock.

I.G.K. Menon, the then Deputy Director of Pasteur Institute at Coonoor in India reported the Asian influenza pandemic<sup>59</sup> during 1957-58. According to him, Asian influenza appears to have reached India via Madras in May 1957. The main

---

<sup>59</sup> Menon, I. G. K. 1959. The 1957 Pandemic of Influenza in India. Bull. World Health Organization. 20, 199-224

pandemic wave swept through the subcontinent within the next 12 weeks; cases occurring thereafter represent the permanent infiltration of the new virus into the population. Between 19 May 1957 and 8 February 1958 there were reported 4,451,758 cases, with 1098 deaths. The author has discussed the attack-rates by age-group, by occupational group, by State and in closed communities such as schools. The disease, in India as elsewhere, seems generally to have run a mild course, although nausea and vomiting and symptoms related to the nervous system were relatively frequently seen.

The paper provides a short history of the migration of the pandemic from Singapur to India. The first intimation that the influenza outbreak in South-East Asian countries such as Japan and Malaya were about to spread to India was received at the Government of India Influenza Centre at Coonoor on 11 May 1957. It was decided to keep a special watch on the arrival of infected cases at Calcutta and Madras and to isolate the virus from such cases. Information was received on 15 May that the S.S. Rajula, which had left Singapore on 9 May with 1622 passengers and about 200 crew members, had been directed to proceed to Madras instead of to its first port of call in India, Negapatam, in view of an outbreak of influenza on board affecting 254 persons in seven days. On the ship's arrival at Madras on the morning of 16 May it was found that there were 44 active cases of influenza on board, four of them

showing temperatures above 103°F (39.4°C). The steamer was placed in quarantine at sea and was boarded by a medical team which examined all on board and gave the necessary treatment. A laboratory team from Coonoor collected throat washings from the patients. These specimens were collected on 16 and 17 May and sent to Coonoor with adequate safeguards for preservation and safety in transit. The first isolation of the virus from the cases from the steamer was made on 22 May. The strain was sent to the World Influenza Centre in London and identified there as A/Asia/57 virus.

Four of the nurses who boarded the steamer on 16 May came down with fever on 18 May, i.e., 48 hours after exposure to infection. If this is taken as the first date of the epidemic in India, it can be stated that the pandemic was noticed in North China in January, Shanghai in February, Canton in March, Hong Kong in April, Singapore early in May and Madras in mid-May, or the 20th week of the year. Within six weeks from 18 May it had spread all over India. In each area, the pattern was one of sweeping spread through the most crowded capital and other cities, followed by a relatively slow spread across villages and other towns.

The maximum spread of the epidemic appeared to take place in the 23rd week (2-8 June). In the same period, along with other cities in the Southern and Northern States, Sambalpur in Odisha was worst affected. The main

wave of influenza would thus appear to have swept across the country within a period of 12 weeks ending on 10 August 1957.

The author has provided some statistics of the Pandemic attacks and

deaths that occurred in different parts of India along with some statistics of the 1918 Pandemic. From the figures presented, a recompilation of data in the context of Odisha could be done as presented hereunder.

### Situation of Odisha during 1957 Influenza Pandemic

Duration	Cases (Cumulative)	Deaths
Total to 6 July 1957	26314	-
Total to 10 Aug 1957	140822	12
Total to 5 Oct 1957	151212	12
Total to 7 Dec 1957	151325	12
Total to 8 Feb 1958	151398	12
Population at 1951 Census (millions)		14.6
Influenza death rate per million population		0.82
Case fatality rate per million cases		79.3
Source: Menon, 1959 (Cumulative Influenza cases and deaths in India)		

### Situation of Odisha during 1918 Pandemic (Spanish Flu - H1N1 Virus)

Province	Central Provinces and Bastar
Total Influenza death in Odisha	924949
Influenza death rate per thousand population	66.4
Percentage of death in 20-40 years age group among total death	28
Source: Menon, 1959 (Cumulative Influenza cases and deaths in India)	

Swetha and others<sup>60</sup> are of the view 'as far as India is concerned, there have been only two major, significant pandemics throughout history. While cholera had been predominant throughout the 19th century with increasing death tolls every year, the influenza pandemic came later on in the early 20th century'. The authors have chronicled the various epidemics and pandemics in India in a historical perspective.

## III

### TRIBAL CULTURE OF ODISHA

Odisha is home to many different tribes at different stages of development. Officially they have been enlisted as Scheduled Tribes. However, there are many other communities who have been

<sup>60</sup> Swetha, G., Anantha Eashwar V.M., Gopalakrishnan, S. 2019. Epidemics and Pandemics in India throughout History: A Review Article in Indian Journal of Public Health Research & Development, August, Vol. 10, No. 8. P. 1503-1509

advocating in favour of their inclusion in the list of Scheduled Tribes. Each tribe possesses its distinct identity in terms of social organization, culture and language. The tribes in Odisha are sort of territorially bounded units. In their life style, beliefs, values and worldview each tribe differs distinctly from the other. Similarly, many tribes speak their own language and some tribes have their own scripts, for example, Ho, Kondh, Santal and Saora. The script of the Santals have already been included in the 8<sup>th</sup> schedule of the constitution.

The tribal people in Odisha have their dwellings on hills and plains or foothills, in linearly fashioned or scattered habitations. The dualism in habitation is important for an understanding of social, cultural and linguistic variations. Similarly, geographic location, physiographic condition of living, degree of isolation and exposure to the outer world and mainstream society are other factors important for understanding variation among the different ethnic groups or scheduled tribes.

There are individual tribes having ethno-cultural variations. In other words, there are ethnic groups who have many sub-groups with distinct variations among the sub-groups. For example, the tribe Kondh has sub-tribes such as Kutia Kondh, Dongaria Kondh, Malia Kondh, Penga Kondh, etc. and the tribe Saora has sub-tribes such as Lanjia Saora, Arsi Saora, Shudha Saora. Taking the sub-groups together, the Kondh and the Saora are found as numerous in the state.

### **3.1 Cultural variations among tribes of Odisha**

All the tribes in Odisha exhibits their uniqueness in identity through many cultural characteristics that are different from each other. One of such characteristics is the settlement pattern. The Dravidian tribes such as Kondh have linear housing pattern in a settlement, arranged in rows of houses. The different sections of Kondhs such as Dongaria Kondh, Kutia Kondh, Malia Kondh, Penga Kondh do have a linear pattern. The alignment and orientation of any Kondh village in relation to the shrine of Earth Goddess (Dharni) and Sun God is almost same everywhere. The shrines dedicated to the two deities are centrally located within the settlement placed linearly between two rows of houses. All the sections of Kondhs follow one basic model although they exhibit variations to a certain degree. Excepting the Kondhs, most other tribes exhibit scattered settlement pattern where the houses are found spread out and keep distance from each other. For example, the Munda speaking tribes have scattered settlement structures. Each Munda speaking tribe maintains its own structural arrangements. The variations noticed among them could be due to cross cultural influences, convergence and divergence. The architectural plans of house construction are also different from tribe to tribe. Tribes like Bonda, Dongaria Kondh, Juang, Gadaba, Koya, Lanjia Saora, Santal etc. exhibit their distinctiveness in clothing,

adornments, hair style. From the very look of a man's wear or woman's wear one could know which tribe he or she belongs to. Nevertheless, each tribe has its own peculiarities.

The tribes of Odisha pursue their subsistence economy in a variety of ways by means of small-scale technologies which vary from tribe to tribe. While some subsists on shifting cultivation or slope agriculture, some others depend on settled rice cultivation and pastoralism and a few other maintain a nomadic or semi-nomadic life style, who mostly subsist on food gathering. Significant variations are noticed in each mode of subsistence. For example, the practice of shifting cultivation by Juang differs from that of the Lanjia Saora and Dongaria Kondh. The practice of settled rice cultivation and pastoralism of Gadaba differs from that of Koya. In their tools and technologies there are significant variations too. However, most of the tribes in Odisha depend on a substantial degree upon forest collections and tree products. The women in tribal societies hold the key to their economy.

The sixty-two scheduled tribes inhabiting Odisha can be broadly classified into three ethno-linguistic groups, such as, Munda (Austro-Asiatic), Dravidian and Odia (Indo-Aryan). Twenty-six of the said scheduled tribes are Munda speakers. The STs included are Bhumij, Birhor, Bondo Paroja, Desua Bhumija, Didayi, Gadaba, Ho, Juang, Kharia, Kol, Kol-Lohara, Kolha, Kora, Korua, Lodha,

Mahali, Mankidi, Mankirdia, Mirdha, Munda, Munda Lohara, Mundari, Parenga, Santhal, Saora/Savar/Saura/Sahara and Shabar Lodha. The list of Munda dialect spoken by the tribes are Birhor (Mankidia), Gata (Didayi), Gorum (Parenga), Gutob (Gadaba), Ho (Ho, Kolha), Juang, Kharia (Kharia, Mirdha), Koda, Mahili (Mahali), Mundari (Munda), Remo (Bonda), Santali and Sora (Lanjia Saora, Juari, Arsi), Korwa, Bhumija.

Fourteen scheduled tribes such as Chenchu, Dal, Dharua, Gandia, Gond, Jatapu, Kandha Gauda, Kondh, Kisan, Konda Dora, Koya, Madia, Oraon and Paroja are Dravidian speakers. The Dravidian dialect spoken by the tribes are: Parji (Dharua), Koya, Kui (Kondh, Kutia Kondh), Kuvi (Dongaria Kondh, Konda Dora, Jatapu), Ollari (section of Gadaba), Kurukh/Oraon (Oraon), Gondi (Gond), Madia, Pengu (Penga Kondh) and Kisan.

As many as twenty-two scheduled tribes are Odia speakers. They include Bagata, Baiga, Banjara/Banjari, Bathudi, Bhattada/Dhotada, Bhuiya/Bhuiyan, Bhumia, Bhunjia, Binjhia, Ghara, Holva, Kawar, Kharwar, Koli/Malhar, Kotia, Kulis, Matya, Omanatya, Pentia, Rajuar, Sounti and Tharua.

The tribal communities differ from each other in respect of certain socio-cultural practices, religious beliefs, values and mores. In many cases cultural affinities do exist in processes

and practices but their interpretations make the difference. Their worldview and philosophy of life in a given socio-ecological complex also differs in many respects. The tribal communities who are in transition between tradition and modernity and reside in relatively mainstream localities differ significantly with the tribal communities who live in remote pockets. These differences are marked most in the context of maintaining the traditional socio-cultural practices. It is, however, commonly seen that the traditional religious beliefs and practices continue to be there with all the tribes. The tribal communities who have accepted other religion are different in this consideration. Within the same community, the older generation have been following their traditional beliefs and practices while the younger generation have been following dictates of the other religion they have accepted. The religion is an important aspect of tribal culture and is deeply related to their worldview and philosophy of life.

To understand the tribal religious beliefs and practices the various rituals and festivals provide the best opportunity. The tribal religious rituals and festivals are season specific and very much linked to their subsistence setting. Since, almost all tribal communities subsist on land and forest-based livelihoods, their

calendar of rituals and festivals falls at phases of agricultural operations, forest collections, and other work activities. If one tries to build a categorization of the rituals and festivals in consideration to the subsistence related work activities and other economic pursuits then it would appear like - rituals and festivals before starting agricultural activities, during the intermittent harvests, final harvest and post-harvest. By and large, major rituals and festivals falls during these stages of agriculture that showcase the religious beliefs and practices, their theology and eschatology. The life-cycle rituals may come up any time. Over the years, there have been many changes in the religious beliefs and practices of the tribal communities. Certain rituals and festivals of the great traditions (Hindu religious practices) have been adopted by the tribal communities and have been incorporated in their ritual calendar. The ritual calendar of the tribal communities has been presented hereunder for an understanding of the seasonality, typology and important practices involved in their socio-cultural processes. It provides a reference to examine what rituals and festivals have been affected during the official restrictions due to COVID-19.

### 3.2 Ritual calendar of tribes of Odisha

Tribe	Ritual/ Festival	Timing	Description
Bagata	Dussera	Sept-Oct	Worshipping of fishing basket and trident
Baiga	Chaita Navami	Mar-Apr	Perform shail dance wearing wooden mask
Banjara	Guru Navami	Sept-Oct	Worship performed by Brahmin priest
Bathudi	Dussera	Sept-Oct	<i>Dehuri/Guru</i> perform worship, sacrifice goat, cocks
	Raja	June	Festival without worships
Bhattada	Chaita Parab	Mar-Apr	Pujari worships earth goddess and sacrifices goat, sheep and fowls for soil fertility and bumper harvest.
	Amba Nuakhia	Apr-May	<i>Pujari</i> offers worship and sacrifices to earth goddess
	Nuakhia	Aug-Sept	New eating of rice
	Dussera	Sept-Oct	Worships and sacrifices conducted
Bhumia	Balijatra	Mar-Apr	<i>Disari</i> sacrifices goat during fertility rites. Young girls dance and trance as a medium for the spirit called Debata. Village deity Budhi Thakurani worshipped.
Bhumij	Dhulla Puja	Apr-May	For well-being of village
	Karama	Aug-Sept	<i>Naya/ Dehuri</i> performs the ritual for prosperity of the village
	Bandna Parab	Oct-Nov	New eating ritual
Binjhal	Maghaparab	March	Dongar Debata is worshipped with fowl, goat sacrifice
	Mahulbhaja Parab/ Chaita Parab	Mar-Apr	First eating of Mahula flowers. Village deity, forest deity worshipped with sacrifices
	Haral Parab	Jul-Aug	Ancestor worship for welfare of the children by keeping unboiled rice and milk at their feet
	Karama	Aug-Sept	<i>Jhankar</i> worships Karamasani deity for good fortune. Badakarama is observed in every three years in which unboiled rice, milk, sweets and liquor are offered
	Puspuni/ Madhen Parab	Dec-Jan	Village deity is worshipped with rice, pulses and animal sacrifice
Binjhia	Karama	Aug-Sept	<i>Kalo</i> worships the village deity, Gramsiri and sacrifices cocks and goats before the deity
Mankirdia	Maka Parab/ Magha Parab	Jan-Feb	<i>Dehuri</i> conducts rituals. Fowls are sacrificed. Supreme deity Sing Bonga (Sun God) and the village deity (Dasauli) are worshipped at Zaheera.
	Hero	Jan-Feb	Dancing and merry making
	Baha/ Chaita Parab	Mar-Apr	Ritual for first fruit of Mahua and ceremonial hunting
Chuktia Bhunja	Vimsen Puja	Mar-Apr	Fowls are sacrificed, wine is offered before the deity for bumper Mahua flowering
	Mati Puja	Sept-Oct	Buck, fowls and pig are sacrificed for bumper crop
	Dussera	Oct-Nov	<i>Pujari</i> (priest), <i>Kataria</i> (sacrifice executant) and <i>Chhataria</i> (umbrella holder) worship Goddess Suna Dei. Bucks and parrots are sacrificed for good agriculture and prosperity of villagers
	Dharani Puja	Nov-Dec	Buck sacrificed for preventing illness of all kinds
Dal	Mati Jatra/ PENCHHADA Puja	May-Jun	Earth Worship. Brahmin worships under a Tulsi plant in the middle of village
	Asadhkhai	Jun-Jul	Communal worship in village and then at forest
	Puspuni	Nov-Dec	<i>Bhoi/ Jani/ Bisal</i> sacrifice fowls before home deities of all households
Dharua	Lendipanda	Jan-Feb	<i>Palasi</i> (village priest) sacrifices fowls, goats, pigs etc. before Birbu (Earth) goddess at the beginning of agricultural cycle. First eating of Mahua
	Ghia Panda	Apr-May	Annual hunting ceremony
	Meria	Mar-Apr	Ritual with buffalo sacrifice for well-being of people, fertility of soil, health and happiness of villagers
	Bihan Puja	Mar-Apr	Ritual for sowing seeds

Dongaria Kondh	Bihan Puja	Mar-Apr	Ritual for sowing seeds
	Ghantaparab	Apr-May	For fulfilment of wants
	Mandiarani	Jul-Aug	For good harvest of Ragi
	Dhan Nuakhia	Aug-Sep	First rice offering to village deity
	Pidika	Sep-Oct	Bumper crop of castor seeds
Gadaba	Punapadi	Oct-Nov	First eating of red gram, small millets and jawar
	Chait Parab	Mar-Apr	No work. Merry making. Ceremonial hunting ritual
	Bandapana Parab	Jul	Disari sacrifices fowls before Thakurani – village deity represented by a stone slab at Hundi (shrine)
	Dussera	Sep-Oct	Disari performs worship to Thakurani
Gond	Pus Parab	Dec	
	Chaita Parab	Mar-Apr	Devaril (village priest) and Katora (clan priest) sacrifice pig and fowls in the rituals like worship of Akipen (village god) and Auwal (mother goddess) during first eating of new crops and for successful germination of seeds before sowing new millets. Blood of the sacrificed animal is sprinkled over the seeds and the charmed seeds offered to gods are sown in the fields for good harvesting.
Hill Kharia	Makar Sankranti	Jan	Ancestor worship. Take holy dip in the hill streams. Gather around fire and eat cake.
	Bhandar Puja	Jan-Feb	Worship the village deity and Bhandar Thakurani with sacrifice of goats and fowls for good honey collection. Make community feast, perform songs and change dance.
Ho	Maghe	Jan-Feb	Supreme deity Sing Bonga and village deity Dasauli worshipped at Jaheera by Dehuri. Along with this, other festivals of the year like Baha, Damurai, Heru, Jamnama, Kolon, Batauli are also performed in similar manner. All festivals are associated with agricultural operations.
Holva	Chaitra Parab	Mar-Apr	Pujari worships during new mango eating ceremony
	Amus	Aug-Sep	New rice eating ceremony
Jatapu	Pongal/ Pondugu	Jan	Disari officiates in social functions and Jani worships the village deity.
	Bhagudi	Mar-Apr	Worship with sacrifice of fowls, pigs and goats is offered to Jahar – supreme deity and Jakeri goddess.
Juang	Amba Nua	Mar-Apr	Dharam Devata (Sun God), Basumata (mother earth) and Gramsiri (village deity) are worshipped
	Dhan Nua	Aug-Sep	The gods and goddesses are worshipped
	Pus Punei	Dec-Jan	Nagam or Dehuri sacrifices a pig and sprinkles its blood over the grains for good germination
Kawar	Dussera	Oct-Nov	Worship double edged sword (Jhagna Khanda) and swords of strife
Kisan	Bihanbuna	Apr-May	First sowing of seeds
	Gamha	Jul-Aug	Installation of Kendu twigs in crop fields
	Nuakhai	Aug-Sep	Eating new rice
	Dussera	Sep-Oct	Worshipping village deities
	Pius Punei	Dec-Jan	Ancestor worship with dance and merry-making
Kol	Magha Pudi, Jamnam,	Jan-Feb	Post harvesting ritual, eating new rice
	Makar	Jan	Ancestor worship
	Baparaba	Mar-Apr	Eating new mango, jackfruit
	Phulbanguni	May-Jun	Use of sal flowers
	Asadhi	Jun-Jul	Ritual for agriculture
	Gamha	Jul-Aug	Ritual for cattle health
Kol Lohar	Makara	Jan	Deities offered with sacrifice of animals and birds through rituals at village shrine
	Nuakhai	Aug-Sep	Ancestor worship, eating new rice and community feast
	Karama	Sep-Oct	Well-being of people, dancing, drinking and enjoying special foods
Konda Dora	Makara	Jan-Feb	Ancestor worship
	Dussera	Sep-Oct	Sacrifice of animals and birds at village shrine
	Dhan Nuakhia	Oct-Nov	Eating new rice

Kora	Dussera	Sep-Oct	Sacrifice of goats, sheep and fowls at village shrine
	Pus Punei	Dec-Jan	Post-harvest ritual
Koya	Bhimpandu	Jan-Feb	Worshipping of rain god and seeds consecration
	Bijapandu	Apr-May	Mango eating festival. Worship earth goddess and offering sacrifice of fowls, pigs and eggs
	Kurumpandu	Aug-Sep	Ritual for first eating of minor millets
Kutia Kondh	Dussera	Sep-Oct	New eating of rice
	Karu Biha Dakina (Meria)	Feb-Mar	Buffalo sacrifice to Dharani Penu
	Chait Parab	Mar-Apr	Ceremonial hunting
	Taka Kalu	Jul-Aug	Ritual at swidden for bumper crop
Lanjia Saora	Puni Kalu	Dec-Jan	Post-harvest ritual at village shrine, merry making enjoying Katul drink
	Udan abdur	Mar-Apr	Ritual before village deity for mango new-eating
	Tankuna Abdur	Jun-Jul	Storing mango kernel
	Osana abdur	Jul-Aug	New eating of minor millet
Lodha	Rogan abdur	Nov-Dec	New eating of red gram
	Sital Puja/ Nateunhanri	Apr-May	Sacrifice of animals and birds to village deity. Annual ancestor worship
	Manas Puja	May-Jun	Seed sowing ritual
	Jathel	Jul-Aug	Ritual to protect cattle from diseases
	Ashtami Puja	Sep-Oct	Offering sacrifice to gods and goddesses at village shrine
Mahali	Bandana Puja	Oct-Nov	Rice new eating ritual
	Maa-mane	Jan-Feb	Ritual for harvesting and using new fruits, leaves, wild grass for thatching and collection of wood
	Baha	Feb-Mar	Naya worships the village Pirha for welfare of the village
Malhar	Sharai	Oct-Nov	Naya sacrifices fowl at village outskirts
	Makar	Jan-Feb	Ancestral worship
Munda	Karama	Sep-Oct	Well-being of people, dancing, enjoying feast
	Sarhul	Oct-Nov	Reaping of paddy by magico-religious head
Omanatya	Amnua	Mar-Apr	New eating of mango
	Akhi Muthi	Apr-May	Pujari offers ritual for sowing seeds
	Pus Purnima	Dec-Jan	Post-harvest ritual
Oraon	Fagu	Feb-Mar	Naega offers sacrifice before village deities
	Chaita Parab	Mar-Apr	Merry making
	Sarhul	Apr-May	Ritual for using sal flowers
	Bisu shikar	Aug-Sep	Ceremonial annual hunting
Parenga	Karama	Aug-Sep	Ritual before village shrine
	Chaita Parab	Mar-Apr	Worship Nangasery and offer goat and fowl sacrifice before proceeding for annual hunting
	Bandapana	Jul-Aug	New eating of pumpkin leaves
Paroja	Puspune	Dec-Jan	Offering sacrifice to cattle god
	Chaita Parab	Mar-Apr	Annual ceremonial hunting
	Bihanthapa	Apr-May	Seed sowing ceremony
	Asadhi Parab	Jun-Jul	Ritual to protect cattle from diseases
	Langaldhua	Jul-Aug	Ritual for consecration of agricultural implements
	Bhadparab	Aug-Sep	Eating of new rice
Pentia	Ambanua	Mar-Apr	Mango new eating
	Nuakhia	Aug-Sep	Eating of new rice. Disari sacrifices a goat before village shrine
Rajuar	Makar	Jan	Ancestor worship and community feast
	Karam	Aug-Sep	Ritual before village shrine
	Nuakhia	Aug-Sep	Eating of new rice
Santal	Magha-sim	Jan-Feb	Dancing and merry making
	Baha	Mar-Apr	Ritual for first eating of Mahua and ceremonial hunting
	Erok-sim	May-Jun	Seed sowing ritual
	Hariham-sim	Jul-Aug	Ritual at the time of sprouting of seeds
	Iri-guldi-sim	Aug-Sep	Offering minor millets to deities
	Saharai	Nov	Cattle worship
	Jantal	Dec-Jan	New eating of rice

Saunti	Makara	Jan	Ancestor worship and sacrifice of fowls
	Raja	June	Ritual before village deity, dance and merry making
	Gamha	Jul-Aug	Installation of Kendu twigs in crop fields
	Nuakhia	Dec-Jan	Rice new eating
Tharua	Makara	Jan	Ancestor worship and eating of special food
	Randia Gamha	Jul-Aug	Ritual for cattle and enjoy special food

Source: P.K. Nayak: Social, Cultural and Linguistic Variations in Tribal Odisha, in Tribes of Odisha, SCSTRTI publication

The annual cycle of rituals of the tribes is in tune with the cycle of economic activities, and surrounded socio-economic interests and well-being of the tribal communities. A ritual is prescribed order for performing a concatenation of rites, and a rite is a traditional performance to which conventional symbolic meaning is attached by those who believe in it. The rituals are commonly but not always ceremonial in nature. A ritual brings human beings interrelationships with gods, ancestral spirits, and other supernatural entities. Rituals, indeed, make overt religion and re-enact the interrelationships between cosmographical, supernatural and social worlds.

Fixed and recurrent group rites which have nearly equal significance for all or most members of the social group in which they are performed range from familial ceremonies to those which apply to whole societies. The time of observance of these rites is correlated with the rhythmic cyclical changes in nature. Indeed many of these rites follow the annual cycle of seasons vis-à-vis the positions of the sun and the moon in the zodiac during a calendar year. Among the tribes of Odisha, excepting those that are Hinduized (Example: Raj Gonds, Rajkuli Bhuiyans, Desia Kondh,

Bathudi, Bhumij, Mirdha, and Odia Juangs) observance of daily, weekly and monthly rites is almost nil. Most of the rituals of the tribes are seasonal and annual.

As most of the tribes of Odisha, practice agriculture in some form or the other, and as rest others have a vital stake in agriculture, sowing, planting, first fruit eating and harvest rites are common amongst them. Their common cyclic rites revolve round the pragmatic problems of ensuring a stable economic condition, recuperation of the declining fertility of soil, protection of crops from damage, human and livestock welfare, safety against predatory animals and venomous reptiles and to insure a good yield of annual and perennial crops.

The annual cycle of rituals commence right from the initiation of agricultural operation, for instance, among the Juang, Bhuiyan, Kondh, Saora, Gadaba, Jharia, Didayi, Koya and Bonda who practice slope agriculture the annual cycle begins with the first clearing of hill slopes during the Hindu month of Chaitra (March-April) and among others, it starts with the first fruit eating ceremony of mango in the month of Baisakh (April-May). All the rituals centering

agricultural operation, first fruit eating, human, livestock and crop welfare are observed by the members of a village on a common date which is fixed by the village headman in consultation with the village priest.

Thus, the ideological system of all the tribes surrounds supernaturalism. The pantheon, in most cases, consists of the Sun God, the Mother Earth and lower hierarchy of Gods. Besides, there are village tutelaries, nature spirits, presiding deities and ancestral spirits who are also propitiated and offered sacrifices. Gods and spirits are classified into benevolent and malevolent categories. A peculiarity of the tribal mode of worship is the offering of blood of an animal or a bird, because such propitiations and observance of rites are explicitly directed towards happiness and security in this world, abundance of crops, livestock, plants and progenies. Sickness is not natural to a tribal, it is considered as an outcome of the machination of some evil spirits or indignation of ancestral spirits or gods. Sometimes, sickness is also considered as the consequence of certain lapses on the part of an individual or group. Therefore, **riddance** must be sought through propitiation and observance of rituals.

The tribal festivals and rituals, excepting the life cycle rituals are specific to seasons and work activities. The festivals and rituals, with reference to their ritual calendar may be categorized under three main seasons – Summer, Rainy and Winter. The summer starts with the month of Chaitra (March – April) when the tribals get ready to start their agricultural production activities. The rituals conducted during this period are commonly known as Chaita Parab or Benta Parab and different tribal communities celebrate their rituals and festivals having different names during Chaitra (Mar-Apr) to Jyestha (May-June). In the rainy season many festivals and rituals are conducted by the tribes of Odisha. Most of such rituals are related to the stages of agricultural operations. While most of such rituals are conducted in the months of June-July, e.g. Asadhi Puja of most tribes, Mandiarani of Kondhs, certain elaborate rituals and festivals like Karam in northern Odisha, Nuakhai in western Odisha are conducted during August-September. The Dussera, Kali Puja comes with the maturing of crops and the harvest festivals starts from then to end with the Pus Punei in the winter season. Almost all the tribe in Odisha conduct harvest festivals in one way or the other.

## IMPACT OF COVID-19 ON TRIBAL RITUALS AND FESTIVALS

The present description is based on observations and peer notes on the impact of the covid 19 on the rituals and the festivals conducted by the tribal communities during the lock down phases and the early unlocking times, more particularly, during the month of April to July of 2020. The following narrations provide to understand the way Covid 19 affected the tribal life and culture during the stated period. Within the frame of time and considering the limitations on physical access for gathering information from various nook and corner of the tribal Odisha, the information is based on the notes from personal communications, news items, social media communications and such other indirect methods. The understanding of the impact of Covid 19 on the tribal life and culture is thus indicative and could not be illustrative or detailed due to typical limitations.

The tribal rituals and festivals are scheduled with reference to Odia months and follows a lunar calendar. The cycle of rituals following Odia calendar starts from Baisakh (April-May) with the beginning of agricultural season and in that way the yearly ritual cycles end with the pre-agricultural season celebration Chaita Parab. With the end of the Chaita

Parab the agricultural activities take start in full pace. This year, by the advent of Covid in Odisha the tribal people had completed many post-harvest rituals that come between January to March and were preparing for grand celebration of Chaita Parab. Suddenly, the restrictions on group activities as a covid preventive measure came as a bolt in the blue to the tribal communities. Before, they could understand anything about Covid properly, they only understood that the government restrictions may not allow them to celebrate the Chaita Parab in fun fare as they used to do in earlier years. The Chaita Parab in southern Odisha is more elaborate compared to any other part of tribal Odisha. For a month and more, the many tribal communities in southern Odisha stop working for anything but remain engaged in celebrating the Parab, singing, dancing, enjoying special food and by that feeling the charm of life. The daily wagers, skilled labours engaged on contract terms in the unorganized sector, the migrant workers, and street vendors almost stop working during the Chaita Parab. The Parab gives them the real feel of group life, blissful life with kin and kith, refreshing memories of their cultural affairs and testing their skills in fun filled ceremonial hunting expeditions. The Parab brings with it the humming of the young hearts in love that in many cases lead to the nuptial ties. Chaita Parab means a lot to the tribal communities in southern Odisha irrespective of the differences in terms of rich and poor, well-off or poverty-stricken.

The Baiga celebrate Chaita Navami with grand fervour and by performing Shaill dance wearing wooden masks. By coincidence, the Covid 19 arrived in Odisha during that period and for that many administrative restrictions were imposed to prevent mass congregations in religious, political and other activities. However, this did not affect the celebration of Chaita Navami of the Baigas as on the occasion everybody wore wooden masks. Having the tradition of wearing masks in Chaita Parab, it was easy for the Baiga to adopt to mask wearing habit as a preventive measure to contain Covid. Baiga, being a smaller community in Odisha live in remote places away from regular official surveillance for which the Covid 19 restrictions made no big difference for them, especially in conducting their rituals and festivals.

The Bhattada community could manage to perform their Chaita Parab in small gathering maintaining reasonable social distance. During celebration of the Parab the priest called Pujari takes the lead to perform the worship and sacrifice of goats, sheep and fowls requesting the gods and goddesses to bless them with bountiful agricultural productions. The Dishari followed by some other community leaders performed rituals at the shrine. However, community feast or such feastive gathering was totally avoided with apprehensions of Police action prescribed under Covid guidelines and preventive procedures.

Balijatra and Budhi Thakurani Puja of the Bhumia community is celebrated

in the months of March to May. While Balijatra is conducted to seek the blessings of gods and goddesses for good germination, adequate rainfall and bumper harvest from cropping, the Budhi Thakurani puja offered to the village deity is considered an insurance against the evil effects of malevolent spirits and to ensure overall well-being of the villagers. While in the first occasion, sacrifice of goat is made, in the second one usually no sacrifice or in certain cases sacrifice of a fowl is made. During this year, due to the Covid restrictions the rituals could not be conducted with much fun fare but were conducted in limited version. The Bhumia believe that the Budhi Thakurani, the village goddess saves the villagers from epidemics and ill-luck and hence her worship may never be neglected under any circumstances.

In the northern Odisha, the Bhumij are found in numbers in various parts of Mayurbhanj district. The community observed Dhulla Puja for the overall well-being of the community and to get rid of the novel corona virus. In many villages the Dehuri performed the ritual seeking blessings of the supreme gods and goddesses to keep the pandemic away from their villages. Certain rituals conducted as part of Dhulla Puja in the sacred groves Zaheera was intended to save the villagers from the corona virus. The Mankidia community performed their Baha ritual during the early April when they conducted the rituals but all the villages could not conduct the ceremonial hunting. The Ho

community also conducted the Biha festival as per their traditions.

The Mankidia permanent settlements in rehabilitation colonies only restricted themselves to the performances at the Zaheera and could not dare to go on ceremonial hunting apprehending that the matter goes to the knowledge of police and proceedings to that effect may occur. However, the community members who had been camping in their make shift huts in different places, especially in the remote areas of Mayurbhanj and Sukinda of Jajpur district could maintain the annual ceremonial hunting as part of the celebrations.

The Juang festival of mango new eating and the Akshaya Tritiya was impacted to some extent. The festivals are conducted at Pirh level. This year due to restrictions on Covid – 19, mass gathering at the Pirh level was avoided by the community leaders. The major impact, however, was seen on celebration of Raja festival which is celebrated with pomp and show in communities like Juang, Paudi Bhuiyan, Bathudi and such other tribes residing in Keonjhar and Mayurbhanj districts.

In the western Odisha also, there was not much impact on the rituals and festivals conducted by the tribal communities in the early summer season. The Chaita festival of the Oraons were over in most of the villages by the time the Covid – 19 guidelines came into operation. The Kisan community members reduced the grand worships of Bihanbuna to

the minimum and performed most of the rituals at the household level. The priests with one or two followers conducted the required rituals at the shrines and conducted rituals at household level too. After the Bihanbuna ritual the tribal households maintained their agricultural activities at their level.

Chaita Parab is a festival that is celebrated by almost all ethnic groups of the state. It is a time when the villagers who had migrated out in search of wages and fortune come back to their villages to integrate with their families or villagers. For about a month the tribals in South Odisha live in a festive mood giving themselves a time out from regular schedule of work. This year the pandemic hit the Chaita Parab badly. Their people who were working elsewhere inside and outside the state got stranded at different places and were kept in camps. Bus, train and all other means of transport were disrupted. Worries clouded both sides; the migrant labour in the camp and the larger family in village.

On the other hand, rather coincidentally, there are some inbuilt systems in celebration of Chaita Parab, especially in South Odisha, that helped implementation of the advisories. Usually, temporary blockades are put at village entry points where groups of tribal people, more commonly the women, gather and demand ding dong from the by-passers and strangers to pass that way. One may plead stating that he doesn't have a coin even to pay for the toll and

may kindly be allowed to cross the blockade, that is also granted generously. This system, in the early hours of the corona spread, prevented the entry of outsiders into the village, and even passing by the village in many cases. This time the Chaita Parab blockade assumed to be of importance in blocking the entry of Corona into tribal villages.

Chaita Parab, that spans over about a month, keep people in good humour when they do not work and enjoy being together, cooking dishes at home, migrant workers probably took leave from work contractors, people visit their kith and kin in other villages, fowls purchased out of the ding-dongs make a group feast. Every household, be it relatively richer or ultra-poor, therefore secure foodstuff for the month. This year it was wonderful. Sufficient food at home as the government provided three months ration quota under public distribution system in advance as a preparatory towards preventing people going out in search of work and earning. The Anganwadi didi used to be very particular about supplying entitlements to women and children, old and disable expressed happiness over people around attending them throughout the day, children in villages enjoyed with their peer groups. The young people in the village who usually were rushing to towns for mobile upload of romantic songs had to remain engaged in traditional recreational activities in the village. The village life looked vibrant except for the fact that roaming around

was not allowed. The police force had least to enforce as the community policing proved strong enough.

The Bonda, Bhotada, Bhumia, Kondh, Gadaba, Gond, Jatapu, Koya, Omanatya, Paroja are the major tribal communities in the South Odisha who celebrate Chaita Parab in pomp and show. The men, women, children come to the streets decorating themselves with leaves and twigs and demand dongs from the passer-by. Children takes a refreshing time hunting crabs in the streams. Rituals are conducted at the village shrine called Nisani Munda. As the evening comes the tribal tunes start reverberating when the community folks, especially in Kondh and Gadaba villages, engage themselves in the 'Sailodi' dance that is very typical during the Chaita Parab. This year, the Sailodi dance could not be performed as the community members submitted to the norms of social distancing imposed by the state administration.

In the similar manner, many rituals and festivals that comes by the time of late summer and early rains, e.g Haral Parab of Binjhal community; Matijatra, PENCHHADAPUJA and Asadhakhai of Dal community; Ghanta Parab and Mandiarani of Dongaria Kondh community; Bandapana Parab of Gadaba, Parenga, Paroja and Kondh community; Asadhi of Kol community; Manas Puja and Jathel of Lodha community; Langaldhua Parab of Paroja community and Hariham-sim ritual of Santhal community. Personal

communications with contacts in these communities reveals that there has been no remarkable impact on conducting of the rituals and festivals abiding by the norms of social distancing.

The Bandapana Parab that is quite significant for communities in Koraput region with reasonable social gathering at village level did not face any difficulty for the Covid. It is a ritual when prayer is offered to Mother Earth for a good crop. With the approach of the rainy season, the Dishari declares and schedules day for the Bandapana Parab. Usually the day is decided looking at the condition of rain and crops in the fields. This year, due to scanty rainfall, the crops have not grown well to the appreciable level. Despite that, the tribal Disharis conducted the ritual during the middle of July. The crops that are grown by the streams have grown well due to availability of critical irrigation. Hence, the rituals have been conducted in such fields without any hassles as the fields remained away from the surveillance of police and administration for social distancing and other Covid norms.

Bandapana Parab has a special significance. It is conducted at the time when the crops have grown to a certain height and require protection. The protection is meant as protection from cattle and other herbivores and protection from pests and insects. Hence, usually a fencing is made around the fields and scare crows are erected in middle of fields during the

Bandapana Parab. These are activities that by default maintains social distance. Hence, there was no issue of Covid guidelines impacting the celebration of the Parab. Special dishes are prepared at household level and no community feast is conducted.

The Parab was celebrated on different days in different villages. The households collected branches of Kendu and Jamun trees from the forests and river sides. After duly invoking the respective gods and goddesses they planted the branches in the middle of their crop lands. There is a prevailing belief that by doing so the crops could be saved from pest infestations. Children in villages make different types of effigy and put them on those branches as scarecrows. The crop fields showing such effigies indicate that the Bandapana Parab has been done. In many places in Koraput, the effigies could be seen in most of the crop fields by middle of July. Personal communications with many tribal community members indicated that in most of the villages the Parab was celebrated during the week ends when shut down was imposed in many parts of the district.

Madan Krisani, belonging to Paroja community is a knowledgeable person on the tribal culture in the Koraput region. According to him, in the tribal dances people usually cling to each other in a chain. However, the Covid guidelines brought them some awareness as well as challenges to innovate their dances. The dances like Dhemsa, Sailodi and other local forms

could be innovated in a manner so that social distance between participants can be well maintained. Usually, during the Chaita Parab all tribal dances are showcased in villages. However, this time there was remarkable difference observed this year when the participants in a dance chain separated themselves from each other and performed as solo dancers.

It seems, the Covid – 19 could not strongly impact the conducting of rituals and festivals except limiting it to performances at shrines and household level without social gatherings. Further, the spread of Covid in the initial days remained confined mostly to the cities and hence it had little impact on the tribal cultural life in the remote pockets of the state.

### **In-built prevention measures in customary and cultural practices**

There has been ample publicity on the importance of traditional healthcare systems and their applicability in containing Covid. Small notes in social media circles provide to understand that social, cultural habits are preventing spread of Covid among India's tribals.

Many ground-level observations on the way the tribal communities have been responding to Covid – 19 Pandemic attest this. News articles, write-ups in social media circulations, interactions with tribal people indicates and highlights the use of traditional herbs and medicines, as well as the social distancing and

hygiene norms rooted in tribal culture, that have relatively kept them safe from the coronavirus pandemic. The cultural practices rather help in tackling the disease and has proved useful in contracting pandemic like Corona (SIC), as the basic maintenance of hygiene at home and workplace along with the social distancing have been prescribed as the key behaviours to contain the virus. It also credited the washing of hands with hearth ashes, leaving shoes outside the door, groups sitting with sizeable distance between individuals and other habits of rural and tribal culture for preventing Covid-19 infections. Administrators and experts are also of opinion that the tribal way of life is built around social distancing, and people have become more vigilant about allowing outsiders in.

According to local tribal leaders, the spread of Corona virus has happened in limited scale in their areas because of two main reasons — the tribals' traditional way of life is conducive to maintaining social distancing, and the government has been proactive in spreading awareness about the precautions necessary to combat the disease. Tribal people have not only physically resisted the entry of outsiders in their villages, but have also voluntarily informed local anganwadi workers and health department officials to quarantine those who returned to the villages and tried to enter their houses secretly.

### **Arrangement of houses maintain social distancing by default**

There are tribal villages where the houses are linearly arranged, e.g. Kandha with or without physical gaps between two houses. There are also tribal villages where houses are located on a scattered manner, with one house located distantly from the other, e.g. Lanjia Saora, Gond. In the case of scattered houses, the boundaries are large enough to keep the neighbours at a distance, unlike urban residences or even modern villages, where houses are bunched together. In the case of houses bunched together or clinging to each other, the families hardly come together inside the houses, except under special circumstances like rituals and festivals. In both the cases there is default social behaviour that the people do not intermingle in the houses. Whether one sees it as a physical barrier or behavioural self-restraint, default social distancing is well observed.

### **Social distancing in work traditions as a customary behaviour**

In their work traditions and also in casual daily life habits, the tribals maintain adequate physical distance. By habit they walk mostly in rows, instead of groups, and while walking they maintain reasonable distance from one another. According to Suresh Wadaka, a Dongaria Kandha of village Khambesi under Kurli Gram Panchayat of Rayagada district, when the tribal people walk the way, especially slopes they maintain a distance so that if someone skids then the following person would not be

affected and also can extend a helping hand. Further, when the women walk with headloads, if they do not maintain physical distance then there is every possibility that if the person in front falls down then the whole line would fall down. In very practical sense, this behaviour of maintaining a distance between two persons is also conducive to their work traditions in consideration to the terrains. Any visitor into the tribal areas would obviously witness this queue-walking maintaining a reasonable physical distance whether it be while going to market, going to agricultural fields or other villages, while going on a hunting expedition or while walking to the sago palm tree for an evening drink. While working in forest, especially for forest collections, they do not work in groups and hence the social distancing norm is maintained by customary practice. It is this customary behaviour that became incidental to the benefits of prescriptive social distancing in the Covid context.

### **Social distancing at market places**

The tribal people visit weekly markets once a week. They carry their agricultural or other products to market walking in a queue and once in market, they put up separate makeshift stalls or sit on the ground separately to transact their produce. While also collecting their entitlements from PDS centres or Anganwadi they also observe behaviour that conforms to social distancing and they also exhibit unfathomable patience waiting for their turn.

Consider a ritual or worship being organized in the village or in a sacred grove. The usual scene is that the priest takes his seat at the designated place and performs. The community people sit scattered at their convenience and observe the occasion at ease. The mothers with their kids maintain a distance for their privacy in caring the child. There is no strict restriction on the sitting posture, gesture or pattern of participation. The customary behaviours have been shaped up through years of maintaining norms and traditions. The tribes who have traditions of maintaining sacred groves, for example, the Santhals, Bhumij, Ho/Kolha, Bathudi, Hill Kharia, Oraons and many other tribes in the Northern Odisha exhibit the traditional ways of maintaining social distancing. The tribes in the Southern Odisha, for example, Kandha, Paraja, Bhatra, Omatya, Saora and many other tribes also have their shrines and sacred groves where they showcase their default norms of social distancing in a customary way.

The police personnel, health providers, frontline workers brought the message of social distancing to the tribal folks to contain the Corona virus. Just by tip of information regarding the essentials of maintaining social distancing lest that the vulnerability due to spread of Corona claim lives, the tribals took care of everything else themselves. Barriers were erected at the boundaries of several tribal villages to prevent outsiders from sneaking in. Even their own people

who were stranded elsewhere were not allowed inside the village. People from the neighbourhoods, traders who used to come to villages to collect agricultural produces, outsiders who used to visit tribal villages for different purposes were denied access into the villages. In case migrant workers coming back from other states managed to enter the village, they were immediately brought to the attention of local health workers, and sent into isolation by the villagers themselves. They might know the scientific significance of the lockdown, but tribals are very aware about keeping distance from others, and are able to maintain social distancing in their routine life.

No doubt, the traditional way of life of tribal is acknowledged by many as the “proper way” to keep a disease like Covid-19 at bay.



## V

### **REAFFIRMING TRUST ON ETHNOMEDICINE**

The public health crisis triggered by SARS-CoV-2, the cause of the COVID-19 disease has a profound impact in re-affirming trust on traditional medicine or ethnomedicine. In a situation when the health-care centres in the tribal areas are not up to mark to provide medical care to contain the Covid, the tribal people have been showing greater interest in their traditional medicine. As a result, the old systems and magico-religious

practices are being revisited by the ethnic groups in remote areas.

Regardless of geographical considerations the tribal communities in Odisha seems to have come back to their traditional knowledge, livelihoods and use or management of natural resources as a response to maintain their well-being and healthcare. Over the years, many studies and research have been conducted on the 'little traditions' of ethnomedicine but the Covid – 19 has triggered the scope for application of such knowledge systems.

The pandemic has provoked severe public health and socioeconomic impacts worldwide, hereby raising attention to animal–human interactions. It has increased the demand for local remedies. Medicinal plants like ginger and turmeric are marketed as 'immune boosters' that cure or protect against the coronavirus. Through (social) media, YouTube, TV and word-of-mouth, self-identified traditional healers argue that while Western doctors struggle to combat this new virus, they already know the cure, which they make using herbs from their own backyard or local markets. Although Covid is a new disease and its cure with traditional medicines has not been justified yet, the fear of this new disease and the absence of a cure or vaccine drives the global demand for traditional remedies to provide general health improvement and potential cures.

Traditional medicine is ridiculed when it is improperly publicized in market. For example, the iconic yoga guru and Ayurved businessman Baba Ramdev drew criticism from health professionals for publicizing his 'finding' that ashvagandha (*Withania somnifera*) may ward off the virus. The most emblematic ethnomedicinal stir, however, was that of the ridiculed prescription of bovine urine and dung as medicine. Ayurved works with a particular framework of bio-elements and diagnostic tools and, as such, anything, even excrement, can be rendered medicinal, depending on the patient's conditions. The tribal traditional medicine has not been that publicized or badly criticized.

The pandemic has rather led people to consider immigration back to rural areas; that is, a lifestyle closer to nature for their well-being and good health. Indigenous communities have put limits to access of outsiders into their habitations during this ongoing pandemic. Concurrently, communities are encouraging members to return to the land for food and social distancing. A likely and very positive outcome is a revitalized connection with family and the land and improvements to intergenerational transmission of knowledge, both of which will lead to stronger food security and sovereignty. Although this pandemic has traumatized tribals and shaken the social, economic, cultural and religious bases of their life, yet it is also redefining human attitudes towards

natural resources. Although indigenous people and other communities in rural areas are economically marginalized, they represent a real hub of traditional knowledge., although, however, isolation caused by the COVID-19 pandemic has significantly influenced their robust socio-cultural and religious bonds.

### **Natural immunity**

Many tribal people themselves and their healers do believe that they have good natural immunity that keeps them safe from many diseases. Their extreme exposure to the natural environment is attributed to be the reasons of their disease prevention and tolerance. Tribals are naturally immune to several diseases, as they still thrive upon forest products like fruits, root vegetables and various herbal products.

One of the tribal ways of responding to sneezing, cold and cold fever is by way of administering decoctions of roots, barks, leaves and spices. These medicinal decoctions are known in different names in different communities. However, the most commonly used term is Kaadha. The Kaadha is prepared out of several herbs, leaves, roots like Tulsi (*Ocimum sanctum*), Arjun (*Terminalia arjuna*), Patalgaruda (*Rouwolfia serpentina*), Guava (*Psidium guajava*), Guluchi (*Tinospora cordifolia*), Kalmegh (*Andrographis paniculata*), Gangasiuli (*Nyctanthes arbor-tristis*), Satavari (*Asparagus recemosus*), Cinnamon, black pepper, ginger, turmeric, etc

with jaggery and such other materials that provides superior immunity. The tribes in the remote areas and also in the mainstream drink Kadhaa as medicines and also as regularly as tea when feel sick out of cold, fever, flu and that kind of ailments. The Kaadha works in the body as preventive and curative medicine. The Kaadha is considered an efficacious preparation and formulation in Ayurvedic literatures. However, the tribal Kaadha preparation is different from the Ayurvedic texts as they mix up fresh naturally available multiple ingredients in estimated quantities based on their past experiences. Kaadha in tribal society is time tested efficacious medicine which is preventive, curative and ameliorative.

### **Preventive healthcare**

The tribal way of treating a disease is different. However, what matters in the Covid context is to ensure preventive healthcare. In the wake of the Covid, the frontline workers of the government departments were assigned with duties related to Covid management and hence the tribal people started taking recourse to preventive healthcare systems. Good food, less exposure, maintaining social distance and affirming trust on preventive traditional healthcare practices have been considered as the key preventive measures they took to prevent Covid.

According to Laxmi Bhatra, a tribal lady known to have good knowledge in ethno-medicine in Kotpad area stated that those who have been taking

Chhapra, a paste made from red ants, a traditional delicacy in Bastar, have good immunity to fight any health problem. The tribes in Mayurbhanj and Sundergarh are quite acquainted with the preparations from the eggs of red ants. However, no personal testimonial is available to indicate if the tribal people in those districts believe that the preparations out of red ants develops their immunity.

### **Effect of fumigants for home sanitation**

The tribal people have a strong conviction that certain fumigants have wonderful effects in keeping the houses sanitized and anti-septic which helps in preventing the diseases like Small pox, Chicken pox and for that matter, Covid also. Budura Jani, in Belghar under Kutia Kandha Development Agency is of opinion that by burning neem leaves, dry skin of onion and garlic, turmeric, sal resin, etc together or separately, the house can be purified and sanitized. To abate the Covid, Kutia Kondhs and like them many other tribal communities insists on using fumigants at home.

### **Managing the mentally -ills**

The most important challenge for the tribal people during the Covid days has been to manage the patients with mental health problems. With hospitals closed and restrictions imposed on general movements, attending the mentally sick people is considered a difficult task. Nabaghan Wadaka, a Dongaria Kondh in Khambesi village and Mohan Murmu

of Baripada holds that the magico-religious beliefs have made a comeback to treat the mentally sick people. Thus, the importance of the magico-religious healers has increased in tribal societies. With magico-religious performances, with or without sacrifices, the mentally ill and their family members are feeling comfortable. Thus, the magico-religious beliefs have been acting as a measure for the mentally sick people. The cultural values, life style, world view and ethos did not allow them to have fear psychosis from Covid-19. However, counselling is required to sustain mental health of the tribals.

### **Traditional birth attendants recalled by community**

At many places in the remote tribal pockets, people have relatively less access to the health infrastructures. The Covid restrictions added to the already existing difficulties. Further, the ASHA, Anganwadi worker and grassroots health workers were assigned with duties to handle essential requirements on priority. The situation created a stir in the tribal communities, with the pregnant women and more particularly on the tribal women at advanced stages of pregnancy. Reports from here and there indicate that the situation brought importance to the traditional birth attendants. The tribal people preferred home delivery over institutional delivery because of the apprehensions that going to the hospitals might become a cause of getting inflicted with Covid. Thus, the

traditional birth attendants have been back into action in remote tribal pockets. Along with their come back, there has been a comeback of the home remedies that applies to common problems of pregnant and lactating women and infants.

### **Preventive behavioural aspects**

Along with these preventive practices, certain regular day to day behaviours also had its influence over containing Corona in tribal villages. The tribal women are very particular about washing their clothes properly while bathing and drying them properly before reusing. The traditional system of women veiling their faces with saree, as a gesture, also works like a mask. In many remote villages of Bonda and Gadaba, washing clothes each day with ashes from the hearth is still in vogue. Hari Pangi, a known tribal herbalist in Semiliguda of Koraput district observed that washing clothes with ashes from hearth is a continuing tradition. However, during the Covid, as he stated, he has been advising people to mix the ashes of neem leaves and banana sheaths to make the sanitisation more effective. According to Padmanabha Jani of Dasmantpur, where Cholera outbreak happened about a decade ago, maintaining home sanitation with sprinkling of turmeric water, neem leave pastes, regular washing of floors with cow dung, drinking water from tube wells and maintaining social distance by practice are some of the reasons for which the Covid has not been a cause of worry

for the tribal habitations located in remote pockets. In times of Corona, people have made white circles at the hand pumps and solar pumps to mark minimum social distance to be maintained.

### **Awareness actors and campaigns**

Anganwadi and ASHA didi are the two key persons who conducted massive awareness campaigns in tribal villages. about hand wash, hand sanitization, house sanitization, maintaining social distance and covering faces with clean towel, saree or mask whatever was available. The local NGOs too contributed to their bit. Customarily, women used to cover their faces by saree veils as a gesture of shyness, thus the advisory made no difference to them. The young boys used to tie kerchiefs on face in style while going out.

Some systems were created in the villages especially about social distancing. Usually during regular work days the women used to rush to water sources to fetch water in groups. When they were advised to stay at home, they did not have to rush to water sources and hence could easily adopt to go out to water sources one after one, whether for bathing or fetch water for cooking, maintaining a time gap. The social distancing thus did not pose a challenge. If there was shortage of water or issue of frequenting to water sources to wash utensils, then the leaf plates and cups were best chosen alternatives. In many tribal villages, Anganwadi didi installed

hand washing point at entrance of village, children had enough fun with frequent hand washing with soap, neem paste, turmeric paste and the elders followed the children. It didn't seem as if corona threw life out of gear in tribal villages.

The impact of social distancing on the tribal group life has been manifold. It required setting of norms, ratification of norms and punishment system in the village and could be established soon. Many typical tribal villages could go back to their traditional clan/village Panchayat system of self-rule and devised systems complementary to the restrictions and guidelines set by the state administration to prevent community spread of the pandemic. However, the impact of social distancing could be realized in closure of SHG activities other than making masks and door to door campaigning, marriages had to be postponed, rituals and religious affairs were cut short from community occasions to individual practices.

## VI

### **CONCLUDING REMARKS**

Tribal communities in Odisha have sustained many epidemics and tolerated many diseases in epidemic form. They have justified to be said self-reliant and resilient in many ways. Their social and cultural way of life, customs and traditions, values and mores have many in-built solutions which proves instrumental at the time

of crisis like that observed during the Covid management. The tribal people have also shown responsive coping mechanisms to prevent the spread of the disease and at the same time to manage their economies within the framework of guidelines and occasional circulars issued by the state and central government. They have been maintaining social distance in their own ways, covering their faces with kerchiefs, towels, saree and masks if available. They have been reaching out to NGOs for aids and services. Many coping mechanisms have been adopted towards sanitization and maintaining sanitation. Hardly examples of such coping mechanisms have been brought to common knowledge because of restrictions on movement.

Specific studies on impact of epidemics and pandemics on tribal culture is rare. There are rather sporadic notes on how certain tribal cultures have responded to situations of epidemics and pandemics. In the past, the tribal areas of Odisha have come across several epidemics. Some memory of such epidemics and their management at community level are still living with the older generations, and very little effort for documentation of these memories have been made. However, it is a fact that in case of outbreak of an epidemic in a smaller geography around tribal habitations, the people generally attribute it to the wrath and anger of certain deities and spirits. Towards that many religious practices are conducted with or without executing

sacrifices. The philosophy of sacrifice being – offering a life to god seeking well being of many. Oral lore provide evidences that with the outbreak of an epidemics, the villagers, guided by their religious head, have abandoned villages and shifted to new locations believing that the god or goddess who brought the epidemics wanted them to leave the village for some reason, or in other words, the gods and goddesses reclaimed their space. A cross-examination of the uninhabited villages in tribal areas, some of which featuring in census reports, may provide further evidences of abandoning villages attributing the reasons to certain epidemics. It may help re-constructing the cultural responses to epidemics and comparing it with the cultural paradigms today as well. In the context of Pandemic, as many elder tribal people mentioned, the parochial traditions have rather remained silent and the universal traditions have reigned over. Thus, it may be construed that epidemics management brings about reflections of parochial traditions or little traditions while pandemic reflects the universal traditions or great traditions. The Covid prevention management in tribal areas stand testimony to this.

Then, the usual question that strikes is whether or not the lockdown and related restrictions influenced the tribal culture? There are many contextual answers to it that may not be possible to be generalized. However, looking at the ground situations, it would be convincing to

state that the Covid has triggered a situation for the tribal communities to behave as self-contained units. The Covid related lockdown and restrictions has not been able to impact the traditional economy of the tribal communities although their relationship with market economy has been impacted. Larger religious festivals have been impacted but no hard impact on the belief systems could be realized. The religious and life-cycle rituals do not seem to have been halted or withdrawn rather has been cut short to some extent. Ample evidences have been generated to believe that the tribal communities have been re-affirming trust on their old systems. The publicity on gravity of Covid and the cases showing that health providers are falling prey to Covid, the tribal people have been showing relative self-constraint to visit health centers for general treatment. For many small ailments they have taken recourse to their folk medicine or ethno-medicine. The Covid phobia caused larger dependence on the traditional birth attendants, traditional herbalists, magico-religious healers, local non-tribal vaidyas some of whom had become nondescripts in their community.

They have shown preventive social behaviour by restricting their exposure and putting blockades to entry of outsiders into their villages. There are many cases, where community members expressed solidarity with in-migrating villagers and advised them to take official quarantine facilities than preferring home quarantine. The

religious leaders took the lead in exercising religious governance, performing specific rituals at village level for well-being of the community members. Such rituals as are usually conducted to ward off the evil spirits believed to have caused an epidemic were hardly conducted for Covid, because they do not believe any of their gods or goddesses caused it. They don't hold their gods and goddesses responsible for pandemic like covid that has occurrence beyond boundaries.

For sake of maintaining their household economy and household food security they have rebuilt their ties with forest. Leaving apart the subsidized rations under public distribution system, an increasing dependency is observed on wild edibles that they believe provides natural immunity. The non-timber forest produce has been optimally harvested during the early days of Covid restriction this year. Thanks to support of the state coming at the right time for procurement of larger collections like Sal seed and economic NTFPs like Kendu leaves.

The lockdown caused increased level of social solidarity, although breach of mutual trust, fear and apprehensions ruled in the case of the mainstream communities. During the course of Covid prevention phase the tribal people have come together as an endowed social capital and leveraged adequately on their cooperative labour systems and group solidarity. In many tribal villages the cooperative labour

system had relatively dwindled because of people running towards cash economy in nearby cities, by taking up individual enterprises, vending and other wage-earning opportunities. During the lockdown, extraordinary examples of cooperative labour management and excellent exhibits of group farming has been seen. The lockdown affected the mainstreams, made the markets volatile, individual enterprises suffered setbacks but the tribal communities became better organized and their philosophy of life has started going back to the old times and living a life clinging to culture. Extension of lockdown would result in more re-organizing, solidarity building, showcasing cultural diversities and exhibiting tribal communities as self-contained units and re-establishing their traditional socio-political norms in self-governance. As many elder tribal people stated, more the lockdown continues, more and more they will realize compactness in their socio-cultural-religious-political affairs.

Odisha has stood strong through several epidemics and pandemics. Good medical care and proper traditional practices have made it possible to fight every infection and luckily, we have been able to even eradicate a few. It can be established that throughout time, many infectious diseases have become widespread due to the mere lack of sanitation and crowded environment. The tropical climate and the seasonal rains in tribal Odisha is yet another important factor

contributing to several vector-borne infections outbreaks in the past and many more to come. Though it has been difficult to throw light on impact of the epidemics and pandemics on tribals of Odisha due to lack of sufficiently available data on a historical time line, sincere efforts have been put into including most of the important, notable ones. This is written with a hope that it may help medical professionals understand

where they had gone wrong in controlling an outbreak in the past or how they succeeded to lead by example. It may not be out of context to say the tribal areas in Odisha may face more outbreaks in the days to come but preparedness has to be given immense importance and control of spread should be the number one priority of the doctors and other health care workers, with due respect to the tribal culture, ethos and sentiments.

## GUIDELINES FOR CONTRIBUTORS

**ADIVASI** is published twice a year, in June and December, by the Scheduled Castes and Scheduled Tribes Research and Training Institute, CRPF Square, Unit-VIII, Bhubaneswar-751003, Odisha, India. It publishes research papers in the field of social sciences, applied anthropology, development studies, and problems of Scheduled Castes and Scheduled Tribes. Articles based on empirical study are given preference. It also publishes book reviews. A general guideline for contributors is given below.

1. Manuscripts should be submitted in word document along with a soft copy through e-mail with the cover page bearing only the title of the paper and author's names, exact designation, official address, email and phone/fax numbers.
2. Manuscripts should be typed entirely using Book Antiqua font.
3. Article Title: This should be centered, bold, with font-size: 13
4. Author's Names: This should be centered. normal, with font-size: 12
5. Author's Affiliations & Email: This should be centered, normal, with font-size: 11
6. Abstract: Each article should preferably accompany an abstract. The term Abstract shall be typed with font-size 12 bold. The content of the Abstract should be between 150 and 250 words and in italic, with font-size: 10
7. Level-1 Headings: The headings should be centered, bold, with font size: 12
8. Level-2 Headings (sub headings): These should start from margins and be typed in combinations of uppercase and lowercase, bold, with font-size: 11
9. Level-3 Headings (sub-sub headings): These should start from margins and be typed in bold, with font-size: 10
10. Body Text: The body-text should normal, with font-size: 11.
11. Tables and Figures: Table and Figure headings should be in bold, with font-size: 11.
12. Footnotes: This should be in italics, with font-size: 11
13. References: The references should be typed in normal, with font-size: 10. The reference list must mention those sources actually cited in the text or notes and to the extent other sources possible which are essential for understanding the topic. Author's name should be the same as in the original source.  
Bibliography is to be listed alphabetically and chronology as follows.  
BASCOW R. 1951 Yoruba food, Africa 21.  
BOVILL, E.W. 1933, Caravans of the Old Shara, London: Oxford University Press.  
DOGGETT, H. 1965. "The development of the cultivated sorghums", in Essays on crop plant evolution. Edited by Sir Joseph Hutchinson, pp. 50-69, Cambridge: Cambridge University Press.
14. No stop should be used after abbreviations (UK, USA), but should be used after initials (K. S. Singh).
15. Capitalisation should be kept to the minimum and should be consistent.
16. Manuscripts not considered for publication will not be sent back. Those submitting papers should also certify that the paper has not been published or submitted for publication elsewhere and that it represents author(s) own work.
17. Manuscripts and all correspondence should be addressed to: Editor, Adivasi, Scheduled Castes & Scheduled Tribes Research and Training Institute (SCSTRTI), CRPF Square, Bhubaneswar-751003, India. E-mail: scstrti@yahoo.co.in.

Printed and published by Prof. (Dr.) A.B. Ota,  
Advisor-cum-Director and Special Secretary,  
Scheduled Castes & Scheduled Tribes Research  
and Training Institute (SCSTRTI), CRPF Square,  
Bhubaneswar, Odisha, India

**Editor: Prof. (Dr.) A.B. Ota**