



## BIOLOGICAL HAZARD: TACKLING AN EMERGING THREAT THROUGH CONTROLLING EXPOSURE, PREVENTION AND PROPHYLAXIS

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### ABSTRACT

Biological hazard is a biological substance that causes a threat to the health of living organisms primarily humans. One of the most important health issues the world faces is the threat of a global disease outbreak called a pandemic. Biological risks related to pandemics & epidemics can affect the health of workers, particularly in specific occupations such as health care workers, transport services etc. Pandemics are large-scale outbreaks of infectious disease that can greatly increase morbidity and mortality over a wide geographic area and cause significant economic, social, and political disruption. The management of this biological devil is a crucial problem in the bad situation. India, the world famous democratic countries weeks and strength is mainly discussed in this paper.

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## INTRODUCTION

Biological hazards, also known as biohazards, are a causative of process or phenomenon of organic or conveyed by biological vectors, including exposure to pathogenic microorganisms, toxins and bioactive substances that may cause loss of life, injury, illness or other health impacts, property damage, loss of livelihood and services, social and economic disruption, or environmental damage. Mainly biological hazards are in the form of epidemic and pandemic. Now a day the all hunk of the continents COVID-19 pandemic, remain as the worst biological hazard induced disaster observed in recent memory. The management of biological hazards focuses on the elimination of the source of contamination. However, the complete extermination of this problem faces many challenges at the national, state and local levels. Therefore, the inventions and innovative solutions are crucial for this time to manage the bad days.

### A Glimpse on the Challenges

**Population Density:** India, being the most populated country second to China, faces severe threat due its over population.

According to the 2017 census, the Birth Rate in India falls as 20.2/1000 live births and Death Rate as 6.3/1000 live births. Hence there faces a scarcity of resources to satisfy the needs of such a large human mass which is a major biological hazard. India affords the density of population to be 382/Km<sup>2</sup>. So, the social distancing policies in times of pandemics like Covid-19, becomes mere a wild goose chase for the govt.

**Public Health Expenditure:** The expenditure by India to meet the demands of the public health sector is very low as compared to other sectors. The National Health Policy (2019) stipulates that at least 2.5 % of the GDP of the country should be utilised for the health sector of the country. But surprisingly, only 1.28% allocation has been there for the public health of the people. A striking contrast can be found from 2010 to 2020 in terms of GDP allocation for the health sector in such a way that in 2010, it was 1.12% and in 2020, it found only 1.28% hike. It clearly shows that only 0.16% hike in GDP allocation has been there for ten years. Thus, the prevention of biological hazard becomes an unattainable objective with such a meagre investment on health sector

**Sensitization to Sensitive Issues:** Due to the lack of education, the people are unaware about the measures to be taken to avert many of the biological disasters. But, here in Kerala, in terms of the quality education imparted, to a great extent, the people are very much sensitized themselves regarding many of the biological hazards that happen in the community.

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For instance, though the state of Kerala keeps a low profile in terms of her expenditure on public health, (only 0.93% being the GSDP for Health Sector), people are aware to a great extent so that they can keep alert to many of the disasters. However, it should also be noted that, Kerala, even though a highly educated state in India, has been in the grip of terror in the milieu of this Covid-19 pandemic.

**Malnutrition:** The status of malnutrition in the country goes up at an alarming state. The statistics show that 35% of Indian children suffer from stunting, 17% from wasting, underweight being 33%, and 2% remain overweight. Hence, they are very prone to any of the biological disasters that affect the community and death rate remains high in such population

**Doctor - Patient Ratio:** India fails to keep the range of the Doctor-Patient ration as recommended by WHO. Hence the people will be vastly affected due to a biological disaster since the health care facilities will be beyond their reach.

**Geographical Location:** India is very prone to many of the tropical neglected diseases due to its geographical location and climatic conditions. But since our geographical features remain unalterable, we can only move forward with proper plan and effective care to bring speedy relief to the victims belong to such territorial locations.

#### Strategies to Tackle the Issue

- ) Take effective steps to control over population
- ) Implement the measures as suggested by the National Health Policy 2019

- ) Implement proper schemes and programmes to provide health awareness to the community
- ) Formulate new nutrition programmes to improve the Nutritional status of the people and evaluate, strengthen and monitor the schemes already implemented
- ) Adopt and satisfy the health requirements as suggested by WHO
- ) Infrastructure development improve health status community

#### Conclusion

Biological hazards remain as the greatest threat to our country at the state and local level. Since they are non-routine events, they need non-routine solutions to tackle them. Hence, innovative technologies and novel measures are of prime importance in averting such disasters

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