

## CHALLENGES FACED BY THE ONE HEALTH APPROACH IN THE DEVELOPING COUNTRIES: AN INDIAN CASE STUDY

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### ABSTRACT:

The COVID-19 pandemic has starkly exposed the urgent need for enhanced collaboration among the realms of human, animal, and environmental health in combating zoonotic diseases. In countries like India, where the threat of zoonoses looms large, this imperative is especially pronounced. Despite widespread acknowledgment of this necessity, governments across the globe have grappled with effectively organizing their responses to this multifaceted challenge. To delve deeper into this issue, a comprehensive study was conducted, employing a combination of document analysis and interviews, focusing on the approaches of India, Bangladesh, Kenya, and Rwanda in managing zoonotic diseases.

The study meticulously examines both the successful initiatives and the stumbling blocks encountered in the implementation of One Health strategies across these nations. It identifies and scrutinizes four primary challenges undermining effective coordination: firstly, the persistent presence of compartmentalized approaches and internal conflicts among the human, animal, and environmental health sectors; secondly, the formidable barriers posed by existing international legal frameworks and the principle of national sovereignty, hindering seamless governance of One Health initiatives; thirdly, the intricate power dynamics and disparities among nations within multilateral institutions, influencing the prioritization of efforts; and finally, the inadequacies in current financing mechanisms, which predominantly emphasize crisis response over proactive measures such as prevention, mitigation, and preparedness.

In light of these critical analyses, the paper concludes that endeavours to establish singular overarching units to tackle these challenges have yielded only partial success. Given the sheer magnitude and complexity of the zoonotic disease threat, the paper advocates for a pragmatic approach that involves the creation of multiple specialized units. Despite the potential for duplication and the likelihood of some gaps persisting, such a strategy is deemed more likely to effectively address the multifaceted nature of the problem and ensure a more comprehensive response.

**KEYWORDS:** threat, inadequacy, risk, complexity, conflict.

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## INTRODUCTION

As part of the sessions currently being conducted by the Working Group on Amendments to the IHR, India proposed numerous amendments to the International Health Regulations (IHR) recently. The group anticipates submitting its report in early 2024. The IHR is a legal framework that delineates the rights and obligations of nations in accordance with the detection and administration of transnational public health emergencies. It has 196 signatory countries. Significantly, India advocated for the concept of "One Health" in its proposed IHR amendments, emphasising that the amended IHR should prioritise "human health, animal health, and environmental risks." The Zero Draft of the WHO's Pandemic Instrument also acknowledges that the majority of emergent infectious diseases and pandemics are caused by zoonotic pathogens. It is committed to the promotion and implementation of a One Health approach that is coherent, integrated, coordinated, and collaborative.

One Health is fundamentally composed of three components: human, animal, and environmental health. These components should be prioritised on an equal basis and considered to be interconnected. There are two primary reasons why India is an exceptional example for analysing the dynamics of One Health operationalisation. Initially, India is a globally prominent country in terms of the burden and diversity of endemic and emerging zoonotic diseases due to its agriculturally wealthy and biodiverse landscape. The effects are more severe for impoverished communities, which hinders the production of sustenance, poverty alleviation, and overall well-being. Secondly, there are ongoing endeavours at the national and state levels to promote cross-sectoral action in order to guarantee the welfare of humans, animals, and the environment, as will be discussed in the subsequent sections of this article. Therefore, it is essential to examine the manner in which India has integrated the concept of One Health into its regulatory frameworks.

### The initial configuration of One Health in India

As early as 2008, India acknowledged the importance of One Health when the Union Ministry of Health and Family Welfare and the Union Ministry of Agriculture and the Wildlife launched the "Roadmap to Combat Zoonoses in India (RCZI)" initiative. The framework underscored the necessity of quantifying the economic burden, morbidity, and mortality of zoonotic diseases and emphasised the justification for implementing a One Health framework. Although there are numerous constitutional provisions and legislations that collectively comprise the objectives of One Health, the following sections identify some of the most noteworthy instruments.

## FRAMEWORK OF THE CONSTITUTION

The governance system in India is quasi-federal, with a division of authority between the federal and state levels. The Constitution specifies that the Central and various State Governments have the authority to enact laws on a wide range of topics. The Constitution of India establishes three lists: one for the Union, another for the State, and a third that allows either of the two governments to legislate on the items enumerated. More specifically, in relation to One Health:

- i. The state governments are authorised to exclusively legislate on matters related to "public health" [entry 6], agriculture [entry 14], fisheries [entry 21], "Preservation, protection, and improvement of stock and prevention of animal diseases; veterinary training and practice" [entry 15], and water, which includes "water supplies, irrigation and canals, drainage and embankments, water storage, and water power" [entry 17], with the exception of interstate rivers.
- ii. The Union and the State governments are both capable of enacting legislation under List III regarding the protection of wild animals and birds [entries 17A and 17B] and the "Prevention of the extension of infectious or contagious diseases or pests affecting men, animals, or plants" [entry 29].
- iii. The Constitution also establishes certain principles, known as Directive Principles of State Policy (DPSPs), that are considered fundamental to the country's governance. Governments are obligated to adhere to these principles. One Health can be associated with certain DPSPs, including Article 47, which mandates that States prioritise the enhancement of public health; Article 48, which mandates that States strive to organise agriculture and animal husbandry in a modern and scientific manner; and Article 48A, which pertains to the protection and enhancement of the environment, as well as the preservation of the country's forests and wildlife.

## STATUTORY FRAMEWORKS

In India, there are numerous legislations that are overseen by various ministries and govern distinct components of a One Health approach. Some of the most notable ones are:

- i. The Wildlife (Protection) Act of 1972 is a law that aims to safeguard the ecological and environmental security of the nation by safeguarding wild animals, birds, and vegetation.
- ii. Environmental Protection Act of 1986 - An Act to ensure the preservation and enhancement of the environment... [preamble].
- iii. The Biological Diversity Act of 2002 is a law that aims to ensure the conservation of biological diversity, the sustainable use of its components, and the fair and equitable distribution of the benefits that result from the use of biological resources and knowledge.
- iv. Epidemic Diseases Act, 1897 – An Act to enhance the prevention of the transmission of Dangerous Epidemic Diseases [preamble].

## DELEGATED POLICIES, GUIDELINES, AND LEGISLATIONS

In addition to the statutes passed by the Union and State Legislatures, there are specific rules, regulations, and guidelines that collectively embody and advance the concept of One Health:

- i. Surprisingly, zoonotic diseases have been mentioned only once, and that too in the specific context of rabies, in the National Health Policy 2017 and a situational analysis that accompany the policy. There is no reference to One Health or any other comparable terminology.
- ii. The initial environmental impact assessment notification was issued in 2006, and since then, there have been numerous fragmentary notifications for revisions, the most recent of which was issued in July 2022. This is the case with the Environmental Impact Assessment Notification, 2020.

- iii. The Ministry of Home Affairs has released the National Disaster Management Plan 2019, which addresses biological and public health emergencies and epidemics. The plan acknowledges that the increased interaction between humans and animals has increased the likelihood of zoonotic diseases arising in epidemic form.
- iv. National Disaster Management Guidelines for the Management of Biological Disasters 2008 – It specifically examines the impact of human activities on the environment, which in turn affects the epidemiology of zoonoses.

The inclusive lists above and their interdependence demonstrate the vast number of these laws and policies. In order to prepare for zoonotic outbreaks, India has implemented a variety of measures over the years. These include the establishment of the Integrated Disease Surveillance Project to enhance surveillance activities and response mechanisms, as well as the establishment of a Department of Health Research within the Union Ministry of Health and Family Welfare. The Department of Health Research is responsible for providing technical support to manage and prevent epidemics. These were further supplemented by a variety of policies and initiatives that were implemented during the COVID-19 pandemic, as will be addressed below.

Throughout the COVID-19 pandemic, numerous measures were implemented at both the Union and State levels that aligned with the One Health approach. Although these did not involve the enactment of legislation, they did involve the implementation of numerous policies and infrastructure modifications. These included the following: (1) the establishment of new institutional bodies and projects; (2) the introduction of new research infrastructure; and (3) the enhancement of existing facilities.

## GAPS AND OBSTACLES

### 1. Issues with the federal framework

As previously indicated, India experienced a variety of regulations, policies, and guidelines, as well as the establishment of various organisations and initiatives during the COVID-19 pandemic. Nevertheless, the federal structure of governance in India significantly impeded cross-state regulation, coordination, and accountability, despite the fact that the decentralisation of action plans at local levels was essential for their effective implementation. The Union was unable to enact a central law for the prevention and regulation of zoonotic diseases during the pandemic, as subjects such as public health, the prevention of animal diseases, water, and agriculture fall within the legislative competence of states. Despite the establishment of numerous bodies and collaborative projects during the pandemic, the hierarchy among the authorities and ministries for the implementation of One Health strategies was unclear, which exacerbated the lack of Union-State coordination as previously mentioned. Notably, the concept of One Health has not been explicitly incorporated into any statute, which further contributes to its lack of nationwide implementation.

### 2. Obstacles to regulatory authority coordination

The implementation of the human-animal-environmental interface may be hindered by the varying, and frequently overlapping, mandates of the numerous empowered agencies and

statutory bodies, as well as a severe lack of inter-sectoral collaboration, as a result of the existence of numerous legislations and other instruments that regulate various aspects of the interface. Nevertheless, India has the potential to effectively develop and execute comprehensive One Health-based strategies. In the past, India has experienced the implementation of extensive collaboration among authorities to implement large-scale and nation-wide programs that effectively combat severe diseases and epidemics. For example, India was responsible for approximately 60% of the global polio cases in 1994 when it implemented the Pulse Polio Immunisation Programme. The goal was to combat vaccine hesitancy among various socioeconomic groups in order to guarantee fair access to vaccines. Throughout the delivery and administration of vaccines, governments at all levels ensured that logistical and administrative issues were systematically resolved. Additionally, external agencies, including the World Health Organisation and United Nations Children's Fund (UNICEF), provided critical capacity-building support. It has been observed that the success of such a comprehensive nationwide initiative was primarily due to "a strong political will at the highest levels, secure financial resources, and an incredible network of volunteers and supervisors to administer the vaccine across India." India can surely integrate the concept of One Health into its laws and policies, provided that governments and other authorities collaborate and promptly implement well-planned measures.

Currently, the One Health programs in India are plagued by a dearth of authority. For example, the Programme for Inter-sectoral Coordination for Prevention and Control of Zoonotic Diseases is institutionally situated within the MoHFW, which restricts its ability to promote inter-sectoral collaboration. It lacks the authority to compel the involvement of veterinary and wildlife authorities at the state and sub-state levels, despite the fact that it can suggest their involvement.

### 3. Anthropocentricity

Although inter-departmental or inter-ministerial partnerships have been established to effectively promote the cause of One Health, it is imperative to recognise any potential anthropocentric bias in the implementation of One Health-based measures and resolve it effectively. Scholars have observed that One Health policies, which are intended to treat all of its components equally, ultimately prioritise human health. Animal welfare is inadvertently subordinated to policies concerning veterinary care and husbandry under One Health. The strategies for pandemic planning are determined by a "human-prioritized perspective," as One Health is frequently promoted in the context of zoonotic diseases.

Failure to consider the role and impact of ecological factors, such as climate change, in the development of One Health frameworks will effectively lead to inadequate participation from stakeholders and government agencies operating in the environmental sector. For example, the MoEFCC and state forest departments implemented a Health-Wildlife Conflict (HWC) Mitigation initiative. Although this HWC action plan addresses the issue of disease transmission by wildlife entering human-use areas, it does not address the potential impact of community exploitation of resources in protected areas, biodiversity loss, and insufficient environmental regulations on such transmission and the further exacerbation of HWC.



The economic benefit and well-being of humans are the primary considerations in the formulation of health policies for the ecology. The effective development of One Health-based strategies is contingent upon the recognition of the importance of all three elements of One Health. This can be achieved by redistributing the oversight responsibilities among various ministries or by ensuring that stakeholders from the human, environmental, and animal health sectors are represented equally.

#### 4. Insufficient involvement of the conservation sector

Some national institutes that are in a strategic position to develop and implement One Health-based zoonotic initiatives list wildlife as a part of their mandate or as a focus area in their action plans. However, they fail to address wildlife when preparing their initiative frameworks and limit their recommendations and strategies to livestock only. For example, the National Institute of Veterinary Epidemiology and Disease Informatics (NIVEDI) in its Vision 2030 plan concentrates almost exclusively on livestock health, despite the fact that its mandate includes "epidemiological surveillance of diseases/pathogens of lab animals and wildlife."

Additionally, regional coordinators are not subject to the same level of scrutiny in their endeavours to coordinate state zoonosis committees, identify state focal points, or actively engage state veterinary and wildlife departments. This may be a result of the program's limited ability to attain these objectives, which may be purely practical.

The culling of healthy animals is an example of how zoonotic disease control measures that are intended to benefit humans can also be detrimental to animals. The framing and implementation of One Health legislation and action plans should be guided by two principles:

- (1) the "peripheral human interests" should not be the basis for implementing zoonotic disease control measures that significantly harm the basic interests of animals, and
- (2) the control measures should not adversely affect the "long-term resilience" of animals and ecosystems.

#### **Recommendations for an Effective One Health Approach in India**

The aforementioned discussion emphasises the importance of implementing measures to more comprehensively integrate the One Health approach into legal and regulatory frameworks and to reconcile the gaps in the existing governance systems. The most critical aspect of these measures is the necessity for collaboration and coordination across sectors and communities. The following are some of the prospective considerations for an enhanced One Health approach in India.

##### 1. Addressing the priorities identified in the 2017 National Health Policy

The National Health Policy 2017 does not explicitly address One Health; however, its recommendation and emphasis on improved Union-State coordination are essential for the development and implementation of One Health-based frameworks during the legislative process. The 2017 Policy suggests that the most effective approach is to prioritise equity-

sensitive resource allocation and to enhance institutional mechanisms for consultative decision-making and coordinated implementation.

In addition, the Policy promotes the active involvement of local self-government and community-based monitoring of health outputs, as well as the provision of capacity-building and technical assistance to States to facilitate the development of State-specific strategic plans. This includes the better management of fiduciary risks.

## 2. Environmental Impact Assessments

The environmental impact assessment (EIA) has been a critical regulatory mechanism for safeguarding the environment from the adverse effects of anthropogenic activities. The EIA requires those who propose projects, programs, and activities to identify methods to prevent and rectify potential negative impacts. It has the potential to serve as a tool for the legal defence of rights and to maintain accountability. Nevertheless, the EIA requirements in India have been relaxed, and numerous exemptions have been granted to projects in sensitive ecological areas, particularly in terms of public consultations and reporting requirements. It is imperative that the EIA criteria remain rigorous in regions where the ecology is more susceptible to human activities, as ecological disturbances could otherwise irreversibly exacerbate the conditions for disease outbreaks.

## 3. Environmental, animal, and human health-related legislation

It is also imperative to reconcile the disparity in the foundations of health-related legislation (which is based on the principle of scientific justification) and environmental legislation (which is based on the precautionary principle). The opportunity for input from relevant institutions and actors, as well as the human, animal, and ecological health sectors, on problems and their solutions is provided by the draughting and negotiation of effective One Health-based laws.

## 4. Appropriate funding that takes into account multiple sectors

One of the fundamental challenges to the effective implementation of One Health measures has been emphasised by numerous scholars: the limited funding capacity of nations. The G20 Lombok Policy Brief and the World Health Organization's Joint Plan of Action for One Health underscore the importance of immediate financial assistance to low- and middle-income countries to strengthen the One Health-based strategy for pandemic prevention, preparedness, and response.

The current resource allocations in India are ministry-specific, and the absence of ongoing financing for inter-sectoral collaboration impedes India's One Health initiatives. Effective cross-sectoral projects necessitate the reorganisation of allocated funds and resources to more pertinent departments and ministries. Government initiatives that have already allocated funds for One Health-based programs and institutions should be used to commit budgetary support and human resources.

## 5. Enhancement of regulatory frameworks that prioritise antimicrobial resistance (AMR)

Antimicrobial resistance (AMR) in livestock is a significant challenge in the development of One Health-based treatment and vaccination strategies for animals, as a result of their indiscriminate use. Although AMR is a natural phenomenon that develops as a result of microbial adaptation to the environment, it has been further exacerbated by the inappropriate use of AMs, particularly in the human health and agriculture sectors.

The National Health Policy 2017 recommends that the issue of anti-microbial resistance necessitates the rapid standardisation of guidelines regarding antibiotic use, the restriction of antibiotics as Over-the-Counter medication, and the prohibition or restriction of antibiotics as growth promoters in animal livestock. The implementation of pharmacovigilance, which encompasses prescription audits that include antibiotic utilisation in both the hospital and community, is essential to enforce changes in current practices.

## CONCLUSION

It is essential for governments at all levels to maintain robust channels of open communication and coordination, particularly when a concept as comprehensive as One Health is attempted to be implemented, due to the federal system of legislative-making power that has been adopted in India. The establishment of a collective body may be required to establish and execute national and interstate One Health plans. Although the National One Health Platform is a positive development, its success is contingent upon the equitable involvement of the stakeholder ministries.

It is imperative that legislators and policymakers abandon an anthropocentric perspective and instead consider One Health as a "public good" and integrate it into legislative and regulatory initiatives. In the post-COVID-19 era, health governance should prioritise the promotion and enhancement of synergies between multi-sectoral and transdisciplinary collaboration at the national level, as well as international cooperation.

The systemic barriers that impede the implementation of the One Health approach can be surmounted by implementing the core strategies outlined in the National Framework for One Health, 2021 by the FAO.

The strategy component entails:

- i. Enhancing the ability of main stakeholders to implement public health initiatives in the areas of human health, animal health, and environmental management
- ii. Maximising the efficacy of public health systems in attaining these objectives within each sector by comprehending and responding to the drivers that pose a threat to health.
- iii. Through multi-disciplinary and multi-institutional joint planning and implementation, institutionalise strong, continuous, and mutually beneficial coordination and collaboration among all stakeholders.

Consequently, the development of strategies and institutions for the implementation of One Health can be facilitated by a nexus of science, social science, indigenous knowledge, and policy at the national, state, and local levels.