



BHARATHIYA VIKAS TRUST

# FROM CRISIS TO COLLABORATION

Decoding India's Healthcare Innovations in Response to COVID-19



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# Foreword

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It is with great pleasure and a sense of responsibility that Bharthiya Vikas Trust (BVT) presents this report on enhancing healthcare system resilience. As a trusted organization dedicated to social development, BVT recognizes the critical need to address unforeseen events such as pandemics and to foster collaboration among diverse stakeholders. This study is an important step towards strengthening healthcare systems and empowering communities to effectively respond to future challenges.

The COVID-19 pandemic has reaffirmed the importance of resilience in healthcare systems worldwide. It has exposed vulnerabilities and highlighted the need for innovative solutions, collaborative efforts, and timely interventions. In this context, BVT, in collaboration with the Crypto Relief Fund (CRF), embarked on this study to examine the key factors contributing to resilient healthcare systems and identify strategies to enhance preparedness and response.

We are grateful for the support and collaboration of various stakeholders, including non-profit organizations, government agencies, research institutions, and communities. Their valuable insights and contributions have enriched the study's objectives and outcomes. Together, we have strived to foster a collective understanding and drive sustainable improvements in healthcare systems.

This report presents the culmination of extensive research, rigorous analysis, and insightful recommendations. We hope that the findings and insights shared within these pages will inspire and guide stakeholders in their efforts to build resilient healthcare systems that can withstand future challenges.

We extend our deepest gratitude to all individuals and organizations involved in this study. Together, we can shape a future where healthcare systems are prepared, adaptive, and capable of ensuring the well-being of communities even in the face of uncertainty.

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# Abbreviations

AB-PMJAY	Ayushman Bharat - Pradhan Mantri Jan Arogya Yojana
AI	Artificial Intelligence
AYUSH	Ayurveda, Yoga and Naturopathy, Unani, Siddha and Homeopathy
BVT	Bhartiya Vikas Trust
CAC	Community Action Collab
CBO	Community-Based Organization
COVID	Coronavirus Disease
CRF	Crypto Relief Fund
CRS	Catalytic Research Support
CSO	Civil Society Organizations
CSR	Corporate Social Responsibility
CTO	Chief Technology Officer
DFY	Doctors for You
EHR	Electronic Health Records
FCRA	Foreign Contribution Regulation Act
FY	Financial Year
GDP	Gross Domestic Product
GOI	Government of India
HCD	Human-Centered Design
IAF	Indian Air Force
IBRI	Institute for Biomedical Research and Innovation
ICMR	Indian Council of Medical Research
ICU	Intensive Care Unit
IIM	Indian Institute of Management
IISC	Indian Institute of Science
IIT	Indian Institutes of Technology
INR	Indian Rupee
INSACOG	Indian SARS-Co-V2 Genomics Consortium
IOMT	Internet of Medical Things
MEL	Monitoring, Evaluation and Learning
MIS	Management Information System
NGO	Non-Governmental Organization
NIC	National Informatics Center
NREGA	National Rural Employment Guarantee Act
NSS	National Sample Survey
NTFP	Non-Timber Forest Products
OKR	Objectives and Key Results
PHC	Primary Health Center
PPE	Personal Protective Equipment
PPP	Public-Private Partnership
RCRC	Rapid Community Response to Covid-19
RHS	Rural Health Statistics
SHG	Self-Help Group
SLPMS	Sustainable Livelihoods Promotion and Microenterprise Development Scheme
UHC	Universal Health Coverage
UNICEF	United Nations International Children's Emergency Fund
USD	United States Dollar
WBE	Wastewater Based Epidemiology
WHO	World Health Organisation

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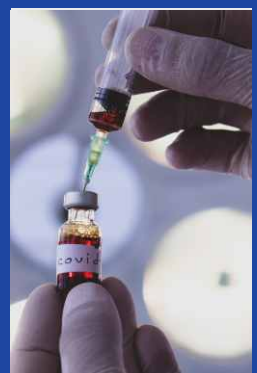
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# Executive Summary

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This report examines the healthcare landscape in India and the country's resilient response to the COVID-19 pandemic. It showcases the role of innovative initiatives and community-driven approaches in addressing healthcare challenges. Specifically, it highlights the pioneering efforts of the Crypto Relief Fund (CRF) and exemplary initiatives. The report emphasizes the importance of collaboration, adaptability, and innovation in driving positive change and recommends strategic actions for sustainable healthcare improvements.

**Section one** of the report investigates the complex healthcare landscape in India. Despite significant challenges like massive population, geographic diversity, and limited resources, India's healthcare system shows resilience through a three-tier structure for rural healthcare, public-private partnerships, and traditional medicine practices. However, the doctor-patient ratio and resource allocation require improvement. Universal Health Coverage remains an important goal, with particular emphasis on bridging urban-rural healthcare disparities and leveraging digital innovation to improve access and efficiency.

The **second section** focuses on India's resilient response to COVID-19, addressing issues like resource scarcity, workforce shortage, inadequate infrastructure, and health disparities. It highlights the role of technological advancements, including IoMT, AI, and Telemedicine, in aiding the healthcare sector. It further underscores the power of collaborative, community-driven initiatives in fostering innovative healthcare solutions and managing significant health crises.

**Section three** outlines the pioneering role of CRF in managing India's COVID-19 crisis. It details CRF's innovative healthcare model, community collaborations, and impressive fundraising achievements. It showcases CRF's targeted relief efforts, partnerships with key organizations, and long-term strategies for healthcare reform. Highlighted are initiatives like vaccine procurement, digital runners, ICU establishment in remote districts, and innovative research facilities, emphasizing the impact of CRF's multi-faceted approach.

The **section four** highlights three exemplary initiatives that fostered innovation during the pandemic. The Rapid Community Response to COVID-19 (RCRC) united CSOs in India, employing direct action, research, and advocacy. Community Action Collab (CAC) built resilience through collaboration, focusing on sustainability and health. ACT Grants mobilized resources for social impact, shifting towards innovation in sectors like education and healthcare. These initiatives demonstrate the power of collective effort, adaptability, and innovation in driving positive change amidst crises.

The **fifth section** details CRF's forward-looking strategies, including the adoption of blockchain technology and a dual-focused Institutional Framework. It introduces two transformative initiatives, the India District Full Stack Model and the Institute for Biomedical Research and Innovation (IBRI), emphasizing a ground-up innovation ecosystem and strengthening biomedical research respectively. The section concludes with strategic recommendations for effective implementation and sustainable partnerships.

In **conclusion**, India's healthcare landscape has shown resilience despite significant challenges. The response to COVID-19 highlighted the importance of technology, collaboration, and community-driven initiatives. The CRF played a pioneering role in managing the crisis and implementing innovative healthcare models. Exemplary initiatives like RCRC, CAC, and ACT Grants demonstrated the power of collective effort and innovation.

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**Moving forward, CRF's forward-looking strategies, including blockchain adoption and transformative initiatives, hold promise for sustainable healthcare improvements.**



## CHAPTER 1

# Navigating the Landscape: Healthcare System in India

# 1. Navigating the Landscape: Healthcare System in India

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## 1.1 Challenges and Opportunities: Priorities for Universal Health Coverage

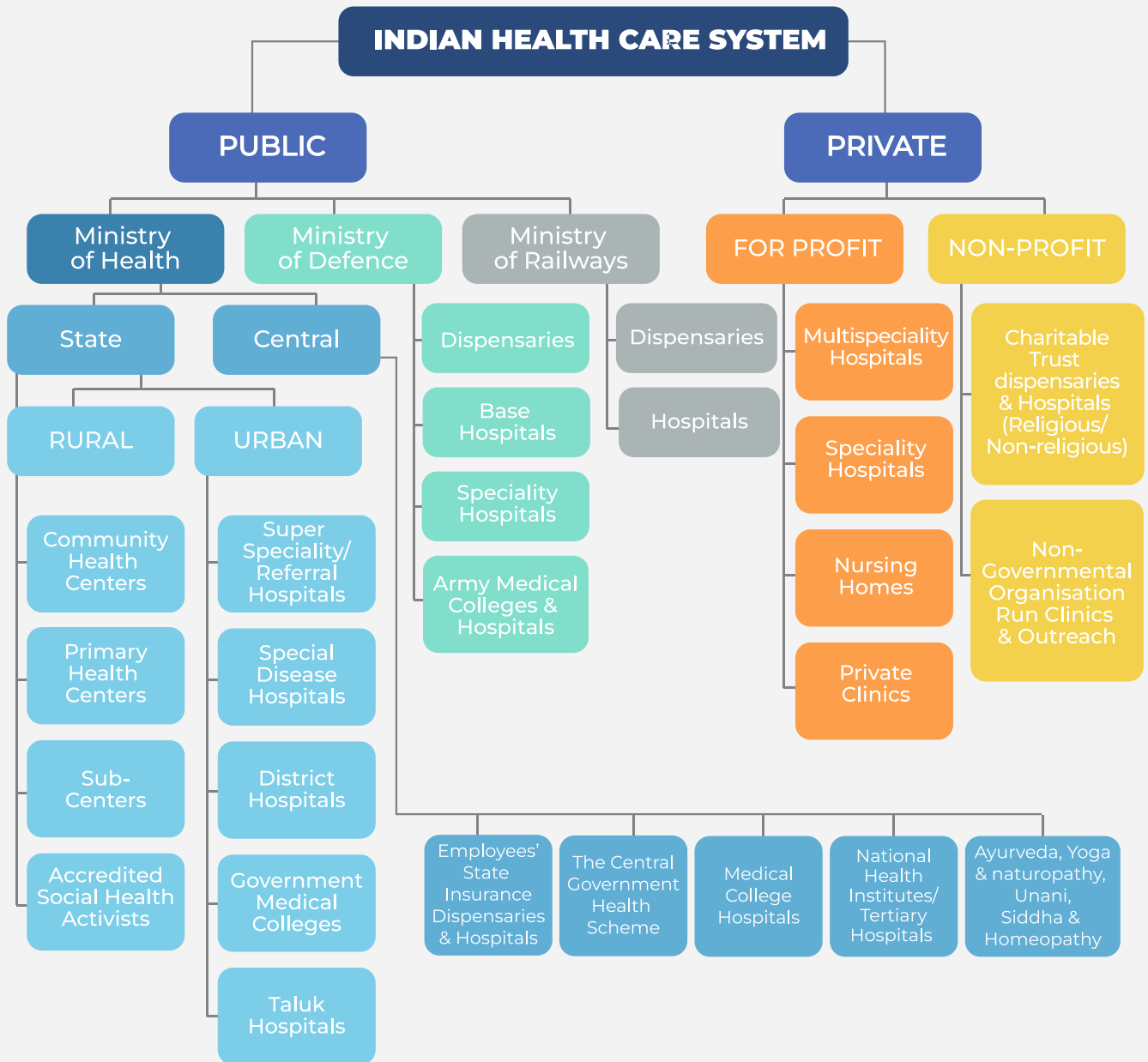
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**India faces significant hurdles providing equitable, quality healthcare to its vast, diverse population.**

India, the world's seventh-largest country, is faced with the colossal challenge of providing equitable access to quality healthcare services for its massive population of over 1.3 billion people, accounting for approximately 18% of the world's population. This task becomes even more daunting in remote and rural areas where accessibility is limited. Compounding the issue is India's significant poverty burden, with a considerable portion of its population struggling to afford essential healthcare services. Furthermore, the country's vast geographic expanse, diverse topography, high population density, and inadequate infrastructure only serve to exacerbate these challenges.

**India's healthcare responsibility is divided between state, local, and national-level bodies.**

With both public and private healthcare systems in place, India endeavors to address its healthcare needs comprehensively. Public health is a 'State Subject' and primarily falls under the jurisdiction of the States and Union Territories, making them responsible for ensuring the provision of quality healthcare services. The States bear the financial responsibility of providing hospital services and primary healthcare facilities. The Union Ministry of Health & Family Welfare, on the other hand, undertakes the responsibility of implementing national-level programs in health and family welfare, prevention and control of major communicable diseases, preservation of indigenous systems of medicines, as well as setting standards and guidelines. The Union and State governments jointly govern areas such as family welfare and population control, medical education, prevention of food adulteration, and quality control in drug manufacturing.



Source: Reset and Reform, 2020

Figure 1 : Overview of Indian Healthcare Institutional System

**Rural India's healthcare spans three tiers, catering to different population scales.**

In rural areas, the public healthcare system has been established as a comprehensive three-tier structure, with primary, secondary, and tertiary levels playing crucial roles. At the primary level, sub-centres cater to hilly terrains and tribal areas, serving populations of up to

5,000 individuals. Primary health centres extend their reach to populations of 20,000-30,000 individuals, equipped to provide essential healthcare services. Moving up the ladder, Community Health Centres operate at the secondary level, serving populations of 80,000-120,000 individuals. These centres boast specialist staff and facilities, including inpatient services. The tertiary level comprises district (or general) hospitals, super-specialty hospitals, and medical colleges, serving as the highest point of medical care.



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### India's diverse healthcare sector includes extensive private services and traditional medicine practices.

Complementing the public sector, India's private healthcare practice thrives with a diverse range of individual practitioners, clinics, and hospitals of varied capacities. Notably, India boasts an extensive network of more than 69,000 public and private hospitals, collectively providing approximately 1.8 million beds, according to 2021 statistics. As of December 2021, the private sector is a major stakeholder, delivering nearly 87% of healthcare services in India.

India's medical landscape also encompasses a pluralistic approach, embracing traditional forms of medicine alongside allopathic practices. Ayurveda, Yoga and Naturopathy, Unani, Siddha, and Homoeopathy, collectively known as Ayurveda, Yoga and Naturopathy, Unani, Siddha and Homeopathy (AYUSH), hold a documented history and play an integral role in the country's healthcare fabric.



**India's healthcare sees progress despite ongoing challenges with doctor-patient ratios and resource imbalances.**

However, despite the significant strides, challenges persist. The doctor-patient ratio remains a concern, with approximately 10 doctors per 10,000 individuals, translating to one doctor for every 1,000 individuals. Alarmingly, country's rural areas, home to nearly two-thirds of the population, face a stark imbalance in healthcare resources.

According to the 2021 statistics, only 33% of the total health workers and 27% of doctors are available in rural regions. This disparity highlights the need for targeted efforts to bridge the healthcare divide. Though, India's journey to meet healthcare benchmarks has witnessed progress but also has areas for improvement. The World Health Organization's 2021 report revealed that India fell significantly short of the recommended doctor-population ratio of 44.5 doctors per 10,000 individuals until 2018. However, the country surpassed the 2006 standard of 22.8 healthcare workers per 10,000 population, indicating positive strides.



### **Indian healthcare funding heavily relies on private contributions, despite low insurance coverage.**

The Indian healthcare landscape presents a striking dichotomy, encompassing contrasting realities and challenges. The National Health Accounts matrix reveals that a significant 71% of the health budget is contributed by the private sector, with households alone accounting for 68.8% of expenditure. However, health insurance penetration remains low, with only an estimated 4 to 6% of Indian citizens covered under any form of health insurance.

While public sector spending on healthcare may be comparatively lower, its role in planning, regulation, and shaping health service delivery is paramount. Such public provisioning is considered essential to achieve equity and bridge the healthcare gaps prevalent in the country.

### **Indian healthcare displays stark contrasts between advanced facilities and widespread accessibility issues.**

Thus, the Indian healthcare scenario showcases contrasting landscapes. On one end, it has successfully established state-of-the-art Medicare facilities catering to affluent urban Indians, attracting medical tourism. Simultaneously, an extensive healthcare system spans the nation, effectively controlling diseases like Tuberculosis and significantly reducing maternal and infant mortality rates. However, on the other end, a significant portion of the population lacks access to quality healthcare in their vicinity. Despite numerous schemes targeting the economically disadvantaged population, inefficient public healthcare and insurance models have hindered progress, leaving this herculean effort incomplete.

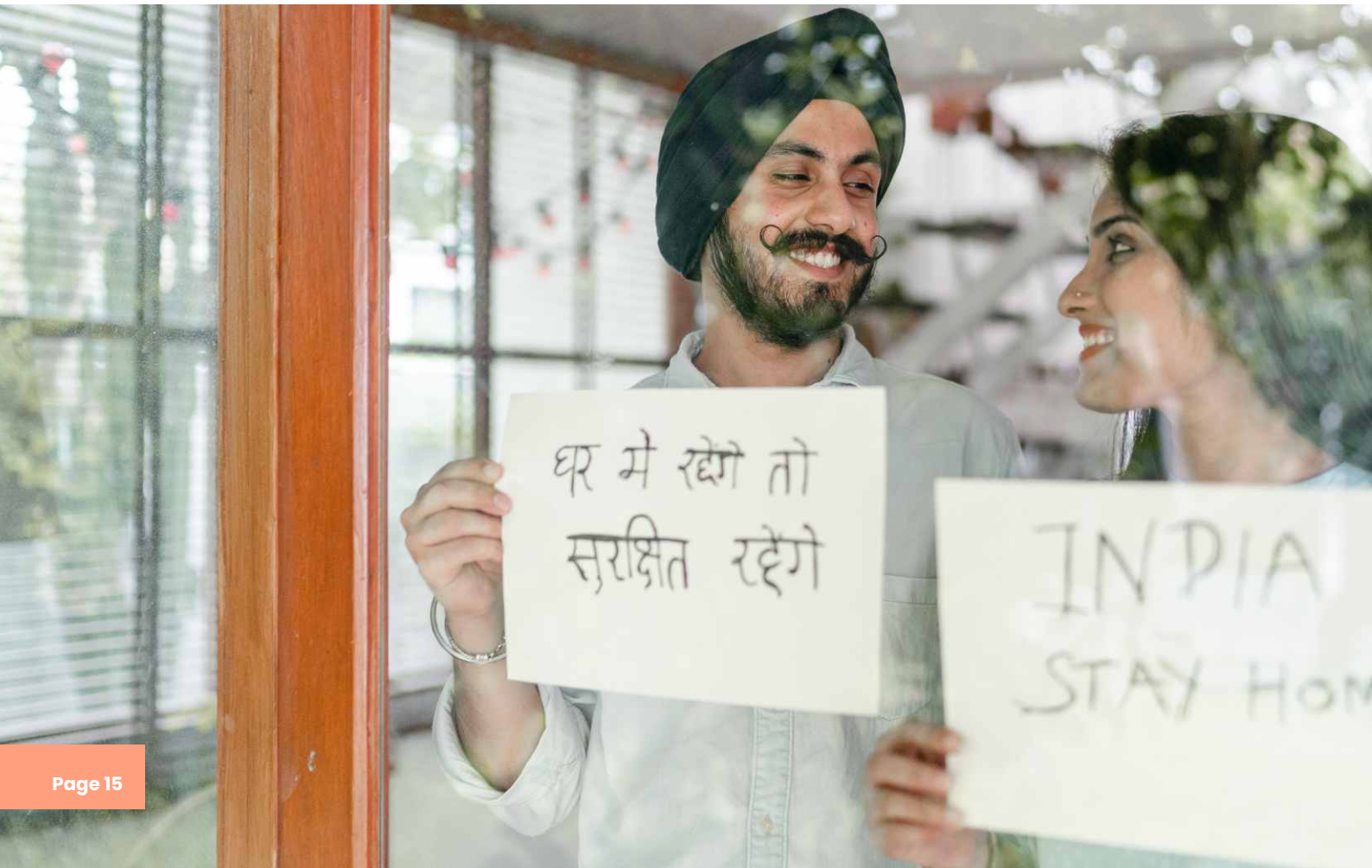
### **Achieving universal health coverage in India requires addressing systemic disparities.**

This scenario underscores the 2018 World Health Organization theme of "Universal Health Coverage - Everyone, Everywhere." The term "Everyone" must encompass the socially disadvantaged, economically challenged, and systemically marginalized, while "Everywhere" must encompass the remote corners of our nation - urban, rural, hilly, coastal, and island regions. Achieving universal health coverage necessitates addressing these disparities and ensuring access to quality healthcare for all, regardless of their circumstances or geographical location.

## 1.2 Unveiling the Healthcare Gap: Contrasting Realities of Urban and Rural India

**Urban-rural disparities persist in India's healthcare access, infrastructure, and quality**

Disparity in access, infrastructure, quality, and affordability of healthcare services between rural and urban areas persists in India, despite the existence of an extensive system. Urban areas are typically privileged with superior healthcare facilities, boasting well-equipped hospitals, clinics, and





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specialized medical centers furnished with advanced technology and a higher concentration of healthcare professionals. Consequently, urban regions attract skilled healthcare experts, leading to more favorable doctor-to-patient ratios and specialized medical expertise.

### **Rural India grapples with shortages in crucial primary and sub health centers.**

On the contrary, rural areas in India confront numerous challenges, particularly in remote villages, where healthcare infrastructure is scarce. The primary health centers (PHCs) serve as the backbone of rural healthcare, acting as referral centers for community health centers, hospitals, and other higher-level public healthcare facilities at the block and district levels. However, despite the seemingly large number, with more than 30,800 PHCs and over 157,900 Sub Centers (SCs) according to the Rural Health Statistics (RHS) 2020, these figures fall short of meeting the target of one PHC per 30,000 individuals and one SC per 5,000 individuals. In reality, there is a shortage of 29% of the required number of PHCs and 24% of the required number of SCs.

**Rural India faces healthcare staff shortage and lacks specialized facilities and equipment.**

Furthermore, rural areas suffer from a significant scarcity of healthcare professionals, including doctors, nurses, and paramedical staff, resulting in inadequate healthcare coverage. The absence of specialized medical facilities and diagnostic equipment further hinders the quality of healthcare accessible to rural populations. Consequently, individuals in rural areas encounter difficulties in accessing timely and quality healthcare, leading to disparities in health outcomes when compared to their urban counterparts.

**The urban-rural gap forces impoverished individuals to rely on overburdened public healthcare.**

The urban-rural healthcare gap has consequently resulted in a stark contrast in the quality of healthcare provided. Many individuals, particularly those living in poverty, find it financially unfeasible to afford private healthcare and are compelled to rely on the overburdened and underfunded public healthcare system.

**Government initiatives are bridging India's urban-rural healthcare divide.**

Efforts have been made by the government and various organizations to bridge the urban-rural healthcare divide. Encouraging initiatives such as the National Rural Health Mission and telemedicine programs, coupled with the expansion of primary healthcare centers, mobile medical units, and community health workers, have successfully brought healthcare



services within the reach of rural communities. These endeavors have undeniably enhanced healthcare accessibility in remote areas.

**Greater investment and targeted intervention are required to bolster rural healthcare in India.**

However, it is crucial to acknowledge that further investments and targeted interventions are imperative to strengthen the healthcare infrastructure in rural regions. A steadfast commitment is necessary to ensure equitable access to high-quality healthcare for all residents, regardless of their geographical location. This entails providing adequate resources, facilities, and support to rural healthcare centers and implementing policies that incentivize healthcare professionals to serve in underserved areas.

By intensifying collective efforts and persistently investing in rural healthcare, substantial progress can be achieved in narrowing the urban-rural healthcare divide.



**Adopting a comprehensive and sustainable approach will not only improve the well-being of rural communities but also contribute to the overall development and well-being of the nation as a whole.**

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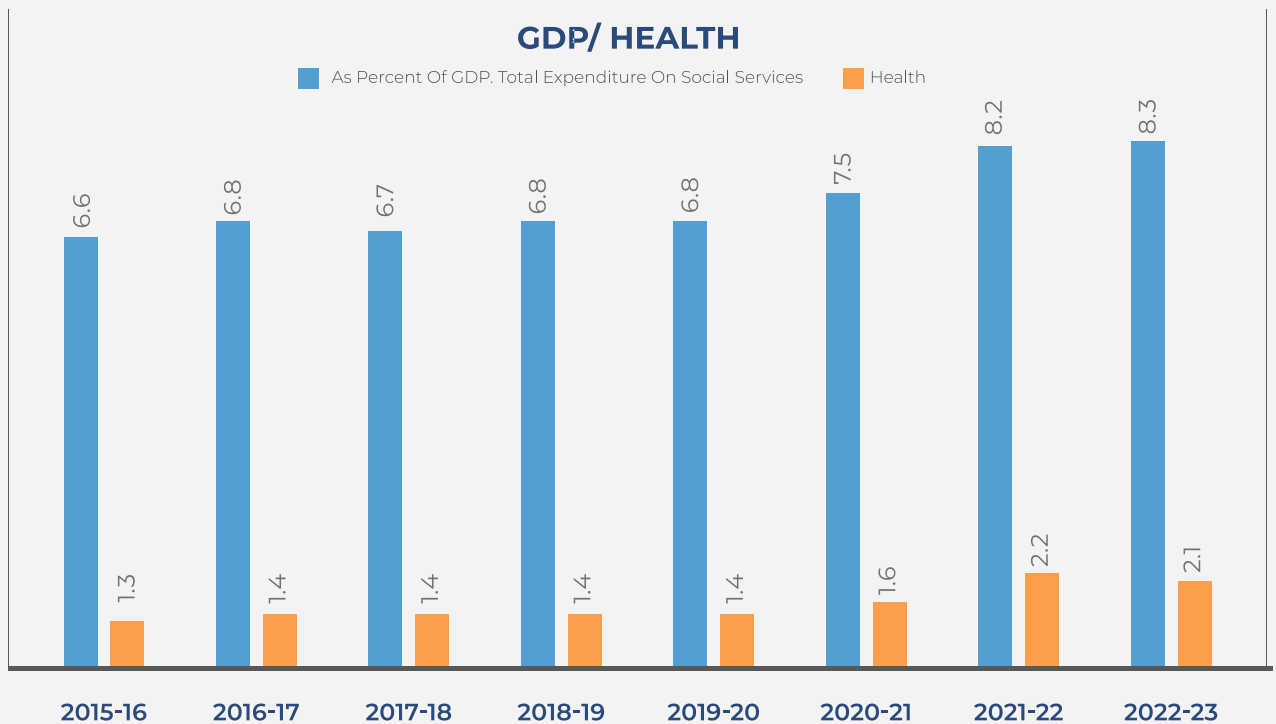
## 1.3 A Decade of Transformation: Progress in Indian Healthcare Systems

### India's healthcare sector sees growth and commitment to Universal Health Coverage.

In the past decade, the healthcare sector in India has experienced remarkable progress, marked by significant advancements and improvements. The government has taken various steps to address the challenges, including increased budgetary allocations for healthcare (rising from 1.2% in FY14 to 2.2% in FY22) and the commitment to Universal Health Coverage (UHC) through the signing of the Astana Declaration in 2018, emphasizing the importance of primary healthcare as the cornerstone for achieving UHC.

### Government initiatives and infrastructure expansion drive India's healthcare improvements.

A key achievement has been the expansion of healthcare infrastructure, with the establishment of new hospitals, clinics, and medical facilities across the country. Government initiatives like the National Health Mission and Ayushman Bharat have played a pivotal role in extending healthcare coverage and reducing financial barriers for millions of people. The introduction of Health and Wellness Centres (HWCs) is another significant step towards achieving universal health coverage to all its citizens, focusing on preventive and promotive healthcare. These centers are expected to reduce the disease burden, improve health outcomes, and promote a healthier lifestyle among Indian citizens.



Source: Press Information Bureau, GOI

Figure 2 : Budget Allocation To Health As A Percentage of GDP

### Technological innovations and preventive healthcare initiatives have revolutionized India's healthcare.

Furthermore, the healthcare sector has embraced remarkable developments in medical technology and innovation. This has resulted in enhanced diagnostic capabilities, improved treatment options, and better patient outcomes. The adoption of digital health technologies, including telemedicine and electronic health records, has revolutionized healthcare delivery by enabling remote consultations, efficient data management, and improved coordination among healthcare providers. The emphasis on preventive healthcare and public health initiatives has grown significantly, with increased awareness campaigns, immunization programs, and focused efforts to combat communicable diseases.

### India's healthcare, committed to universal coverage, expects future transformation with continued investment.

The progress made in the last decade has laid a robust foundation for continued advancements in the healthcare sector. With a resolute focus on achieving universal health coverage and ensuring the well-being of all individuals in India, the healthcare landscape is poised for further transformation. Continued investments in infrastructure, technological innovations, and preventive healthcare initiatives will drive sustained improvements. The commitment to providing accessible, affordable, and high-quality healthcare services remains at the forefront of India's healthcare agenda, paving the way for a healthier and more prosperous future for the nation.

## 1.4 Unlocking Potential: Digital Innovation in India's Healthcare Sector

**Digital healthcare in India is revolutionizing access, delivery, and efficiency.**

Digital healthcare in India has experienced remarkable growth, transforming the healthcare sector in unprecedented ways. With rapid technological advancements and increased internet penetration, digital solutions have revolutionized access and delivery of healthcare services in the country. Through digital platforms, telemedicine, and mobile applications, individuals can now benefit from remote consultations, online medical advice, and convenient access to healthcare anytime, anywhere. These innovations have enhanced efficiency in healthcare delivery, reduced waiting times, enhanced patient engagement, and expanded access to medical information and resources.





**Digital healthcare empowers individuals, but challenges remain for equitable access and regulatory compliance.**

Digital healthcare holds tremendous potential in bridging gaps in underserved areas and empowering millions of individuals to take charge of their health and well-being. However, challenges such as data privacy, regulatory compliance, and addressing the digital divide must be overcome to ensure equitable access across all segments of society. As technology continues to shape the future, the integration of digital solutions into the healthcare system promises to revolutionize healthcare delivery and improve health outcomes for all.

In conclusion, digital innovation in India's healthcare sector has transformed access, delivery, and efficiency, presenting immense opportunities and challenges for equitable and inclusive healthcare for all.





## CHAPTER 2

# Confronting the COVID-19 Storm: A Global Health Challenge

## 2. Confronting the COVID-19 Storm: A Global Health Challenge

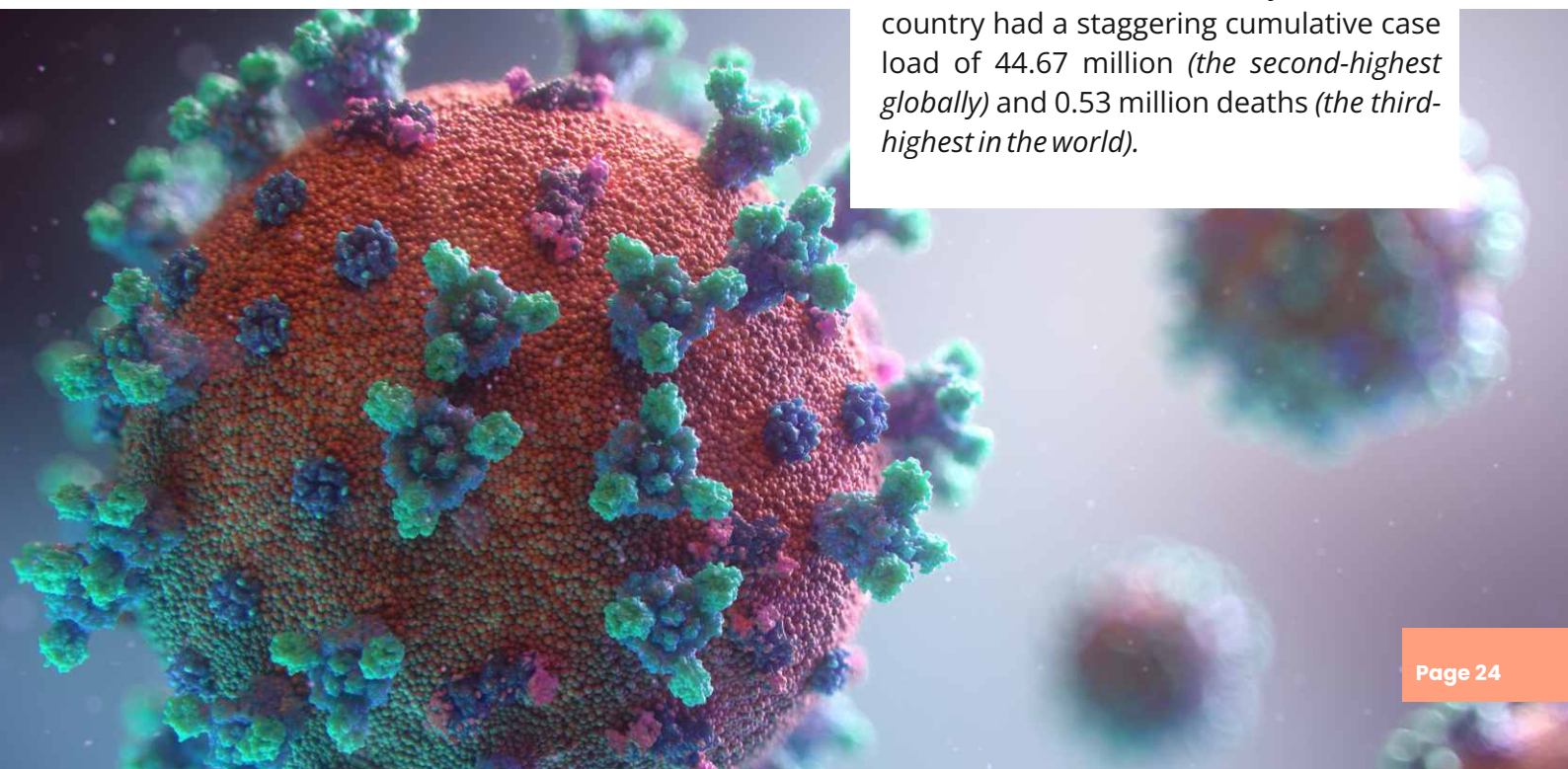
### 2.1 Rising Above Adversity: India's Resilience in the Face of the Pandemic

**COVID-19 outbreak in India led to a significant number of cases and resulting in a nationwide lockdown.**

The outbreak of COVID-19 in India initiated a series of significant events that exposed and exacerbated existing challenges within the healthcare system. The first case was reported on January 30, 2020, originating from a student who had returned to Kerala from Wuhan, China. Although the number of cases remained relatively low initially, sporadic instances were reported across the country.

However, by the end of March 2020, there was a rapid surge in cases, compelling the Indian government to enforce a nationwide lockdown on March 25, 2020, in an attempt to contain the virus. While the lockdown successfully slowed down the rate of infection, it overwhelmed healthcare systems in the worst-affected states and diverted resources from non-COVID healthcare services.

Subsequently, India faced several waves of the pandemic, experiencing a massive surge in cases in April and May 2021, followed by a third wave from January to March 2022. As of January 2023, the country had a staggering cumulative case load of 44.67 million (*the second-highest globally*) and 0.53 million deaths (*the third-highest in the world*).



## COVID-19 exposed and worsened challenges in India's healthcare system

The pandemic laid bare and exacerbated the underlying challenges inherent in India's healthcare system, exposing its vulnerability in the face of surging demands for medical services. Some of the critical problems that were further aggravated due to the impact of COVID-19 are:

**1. Resource Scarcity:** Indian healthcare has long suffered from chronic underfunding, resulting in a scarcity of healthcare facilities, insufficient staffing, and inadequate infrastructure.

**2. Workforce Deficit:** India's healthcare workforce, including doctors, nurses, and other professionals, was already facing a shortage prior to the pandemic. The high infection rate among healthcare workers compounded the issue, as many were required to quarantine or fell ill themselves.

**3. Insufficient Infrastructure:** The existing healthcare infrastructure, particularly in rural areas, was ill-equipped to handle the surge in demand for services during the pandemic. Shortages of hospital beds, medical equipment, and oxygen supplies were major challenges.

**4. Regional Disparities:** Healthcare services in India remain concentrated in urban areas, leaving rural regions with limited access to basic healthcare provisions. The second wave of the pandemic hit rural areas particularly hard,

exacerbating the disparity in healthcare infrastructure and accessibility.

**5. Insurance Gap:** The majority of Indians lack health insurance coverage, creating barriers to accessing necessary healthcare services. Combined with the high cost of treatment, this issue further limited healthcare accessibility for many individuals during the pandemic.

## Government strengthened healthcare system through infrastructure, spending, testing, quarantine, and vaccination.

In response to these challenges and to get ahead of the spread of the virus, the government initiated efforts to strengthen the healthcare system by ramping up infrastructure, increasing public spending, and implementing strategies such as widespread testing, effective quarantining measures, and accelerated vaccination campaigns.

The lessons learned from the pandemic highlighted the pressing need for sustained investment in India's healthcare system to ensure its preparedness, resilience, and ability to effectively manage future health crises.

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## 2.2 Empowering Healthcare with Technology: India's Path to Innovation

**COVID-19 spurred healthcare technology advancements, including IoMT and AI.**

The urgency to combat COVID-19 spurred remarkable research and innovation in healthcare technology, resulting in the emergence of newer technologies and upgraded versions of existing ones. These advancements were particularly prominent in branches of medicine that required future readiness, despite being overshadowed during the pandemic. Hospitals enthusiastically adopted these advancements to align with the evolving tech-based approach to care and enhance their existing structures in the post-COVID era. Moreover, there was a concerted effort to make these technologies more affordable, ensuring access to advanced treatments in smaller towns and cities. The introduction of Internet of Medical Things (IoMT) based solutions further transformed the healthcare sector, enabling real-time monitoring of medical data and patients' vitals. Artificial intelligence played a significant role in early detection, accurate diagnosis, and streamlining administrative tasks. The improvement and development of medical and healthcare facilities were catalyzed by the COVID-19 crisis.



**COVID-19 prompted innovations in respiratory support, PPE, and healthcare accessibility.**

The COVID-19 pandemic spurred the development of innovations such as Respiratory Support Devices, Mechanization of Manual Ventilation, and Personal Protective Equipment (PPE) products like face masks, shields, and sanitizers. These innovations were either directly inspired by the pandemic or found applications in addressing the situation.

Furthermore, several other innovations emerged or were upscaled during the pandemic to enhance the healthcare ecosystem in India. These innovations aimed to bridge the gaps in the traditional health



system and extend its reach. They played a crucial role in mitigating the urban-rural inequalities that were exacerbated by the pandemic.

**Some initiatives are discussed below:**

**1. Genome Sequencing and Variant Tracking:** The Government of India established the Indian SARS-Co-V2 Genomics Consortium (INSACOG) to coordinate and strengthen SARS-Co-V2 variant detection and tracking. Genomics data from research institutes and laboratories, both public and private, was shared with the global community to collaboratively understand how the virus mutated and tracking the spread.

**2. Mobile Tele-Medicine:** Mobile Tele-Medicine brought about a transformative improvement in healthcare accessibility by overcoming physical proximity limitations in accessing healthcare, reducing urban-rural disparities, and addressing the challenge of a low doctor-patient ratio. Through the utilization of Information Communication Technology, it facilitated the seamless exchange of patient health information among medical professionals. Government initiatives like Ayushman Bharat-Pradhan Mantri Jan Arogya Yojana (AB-PMJAY) and organizations like the National Informatics Centre (NIC) leveraged Mobile Tele-Medicine to enhance healthcare delivery across the country. Additionally, innovative service models emerged during the pandemic, combining mobile medical units with telemedicine to provide localized care while enabling consultations with specialists in larger cities.

This approach proved particularly beneficial in India's North Eastern states, where inadequate infrastructure posed challenges. Here, tele-medicines and digital pathology empowered patients to receive comprehensive local healthcare services while accessing expertise from urban centers, bridging the gap between remote regions and medical resources.

**3. E-Health and Electronic Health Records (EHR):** EHRs were crucial in handling patient data during India's COVID-19 outbreak. They provided remote access to patient information, tracked COVID-19 cases, and enabled telemedicine in rural areas. EHRs effectively managed healthcare resources, such as hospital beds, ventilators, and medical oxygen supplies, ensuring prompt and suitable patient care. Their implementation underscored the necessity of embracing digital technologies for enhanced healthcare delivery and improved preparedness against future health emergencies.

**4. Digitized Management of Medical Consumables:** The "e-Aushadhi" program by the Indian government strives to facilitate the delivery of medication through technology. Its goal is to streamline the drug supply chain management system in the country by digitizing processes such as procurement, storage, distribution, and monitoring of drug utilization in government-owned hospitals, health centers, and warehouses.

**5. E-pharmacies:** E-pharmacies revolutionized the way people access medicines and healthcare products by providing online platforms for convenient purchases from home. They offer a practical and accessible alternative to traditional brick-and-mortar pharmacies, benefiting individuals in remote areas or with limited mobility.

**6. Vaccine Development and Manufacturing:** India played a significant role in the innovation, development, and production of COVID-19 vaccines. The country not only developed its own indigenous vaccines and made them available to global partners but also contributed to the manufacturing of vaccines developed by international collaborators.

### **India's COVID-19 vaccination campaign reaches significant milestones with widespread immunization coverage.**

India's COVID-19 vaccination campaign achieved remarkable success. Starting on January 16, 2021, India administered over 2.2 billion vaccine doses by March 4, 2023. These doses include initial, follow-up, and precautionary (booster) shots of approved vaccines. Nearly 95% of eligible individuals (12 years and above) received at least one dose, while 88% of the eligible population (12 years and above) completed their full vaccination. This significant achievement reflects India's commitment to widespread immunization and highlights its effective response to the pandemic.

## 2.3 Community-Driven Health Innovations: Collaborative Models in Pandemic Relief

**Collaboration among diverse stakeholders fueled a collective response to the pandemic.**

The challenges posed by the pandemic sparked a notable sense of urgency among various actors within the healthcare ecosystem, including the national government, private sector, NGOs, philanthropies, and civil society organizations. These stakeholders actively collaborated to tackle the

unprecedented crisis and contribute to pandemic relief efforts.

Within the development sector, collaborative partnerships involving panchayats, district governments, and brands emerged as a powerful approach to enhancing community service. A survey revealed that 44% of Indian development organizations engaged in cross-sector partnerships, enabling them to exchange information, offer mutual support, and create positive change together.





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**Child Fund India forged collaborations with community-based organizations and government authorities to support children in need during the pandemic.**

Notably, Child Fund India, an NGO dedicated to early education and maternal/child health, prioritized stronger collaborations. They established connections with community-based organizations, youth groups, mothers' groups, and child-protection committees, ensuring local support for children in need. By working closely with government authorities and larger platforms like the COVID Action Collaborative, they successfully secured ration support from new donors. By uniting with like-minded organizations and leveraging each other's strengths, they amplified their impact on the community.

**Haqdarkshak launched a multilingual app to connect underprivileged communities with welfare schemes, facilitating access and information dissemination.**

Another organization, Haqdarkshak, focused on aiding the underprivileged in accessing welfare schemes, swiftly launched a multilingual app. This innovative digital solution provided comprehensive information about various schemes, establishing a direct and efficient connection with the people they served. This digital outreach proved invaluable in reaching remote and marginalized communities.

**Smile Foundation partnered with social enterprises to integrate telehealth with mobile medical vans, delivering essential healthcare to underserved areas during the pandemic.**

**Smile Foundation, a national-level non-profit organization,** adopted a collaborative approach by partnering with social enterprises in Tele Health and

donors. They successfully integrated mobile medical vans with telehealth initiatives, specifically targeting underserved and remote locations during the COVID-19 pandemic. Over time, this model expanded to include mobile diagnostic services, continuing to deliver essential healthcare services and is gaining widespread adoption and acceptance to this day.





## Collaboration in healthcare responded to pandemic challenges, fostering resilience and impact.

These innovative health service models highlight the power of collaboration in responding to the unique challenges posed by the pandemic. By leveraging partnerships, organizations were able to enhance their reach, efficiency, and impact. These collaborative efforts not only provided immediate relief but also laid the foundation for long-term resilience in the healthcare sector.

In conclusion, the collaborative models in pandemic relief showcased the strength of partnerships in addressing healthcare challenges. These innovative approaches fostered resilience, amplifying the impact of organizations and paving the way for a more collaborative and adaptable healthcare system.



## CHAPTER 3

# Crypto-Relief Fund: An Innovative Healthcare Model

# 3. Crypto-Relief Fund: An Innovative Healthcare Model

## 3.1 Amplifying Impact: Collective Efforts in Combating the Pandemic

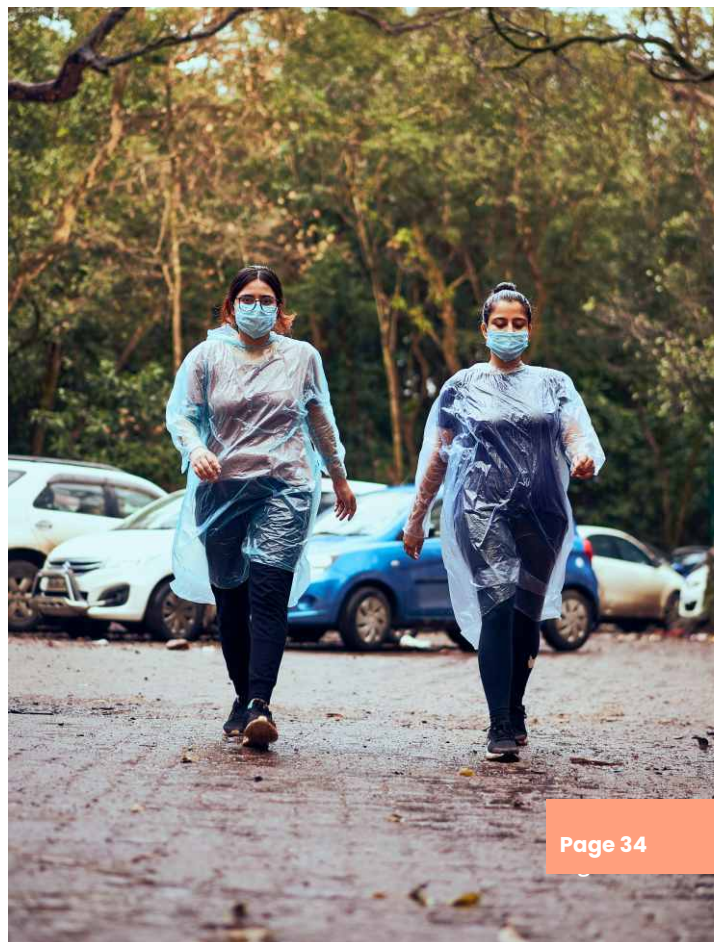
**Crypto Relief Fund (CRF) united crypto community to combat COVID-19.**

CRF emerged as a direct response to the COVID-19 crisis in India, driven by the collective efforts of the global crypto community and a shared mission to aid the country in combating the pandemic while building resilience for future outbreaks. Spearheaded by Sandeep Nailwal, co-founder of Polygon, and backed by influential figures like Vitalik Buterin, co-founder of Ethereum, and Balaji S. Srinivasan, former Chief Technology Officer (CTO) at Coinbase, the initiative quickly gained momentum. A dedicated team of 10-15 volunteers, personally connected to the founder and driven by a sense of purpose, rallied behind the cause.

**CRF raised millions swiftly with Ethereum Founder's contribution.**

Through public crypto wallets, the fund raised an impressive \$1 million in just 2-3 days, a figure that skyrocketed to \$7-8

million within a week. Vitalik's significant contribution further propelled the funding to unprecedented levels within 20-25 days. CRF swiftly raised donations through public crypto wallets, amassing \$1 million within 2-3 days and reaching an impressive \$7-8 million within 7-8 days. Vitalik Buterin's substantial contribution played a pivotal role in achieving an unprecedented funding amount within 20-25 days.





From Project Site

### **CRF provided immediate and strategic healthcare solutions in India.**

Initially, the focus of the fund centered on providing immediate and short-term solutions to address the urgent needs of those affected by the pandemic. As the fund expanded and its scope broadened, a strategic approach was adopted to cater to the systemic issues within India's healthcare landscape. Team members well-versed in the country's health challenges were brought onboard to meet diverse grant demands. The peak of relief efforts spanned from April to July 2021, and the organization continues its work to this day, with ongoing projects still underway.

### **CRF launched District Pandemic Response Programme with \$100,000 budget.**

During the third wave, CRF launched the District Pandemic Response Programme as a preparatory measure. They collaborated with organizations that had previously partnered with them during the second wave and invited proposals related to ten thematic areas, with a designated budget of \$100,000.

### **CRF partnered with FCRA- registered NGOs, and implemented monitoring mechanisms.**

CryptoRelief worked exclusively with NGOs possessing valid FCRA status and ensured a simple streamlined due diligence and monitoring process. Some projects

incorporated robust monitoring and evaluation mechanisms, while others underwent on-site checks and documentation to ensure progress tracking. Leveraging technology such as online dashboards facilitated remote management of operations. The organization fostered a culture of continuous improvement, actively seeking internal feedback to refine their approach and enhance impact.

### **CRF prioritized local involvement, and fostered partnerships.**

CRF collaborated with Government, Private sector, Academia, and Civil Society to address health gaps and local challenges. It aimed to create an ecosystem where organizations,

institutions, and governments unite. Adhering to key principles, it worked at the National, State, and District levels, guiding its role, activities, and directions. It adhered to several key principles that guided its role and activities and directions:

#### **1. Empowered Local Stakeholders:**

Recognizing the expertise and insight of local communities, CryptoRelief prioritized their active involvement in identifying and addressing challenges. Rather than imposing external solutions, the organization advocated for inclusive processes that enabled local communities to define their own problems and discover appropriate solutions. By engaging citizens as active participants rather than passive recipients, CryptoRelief fostered sustainable and meaningful change.





## 2. Fostered Collaborative Partnerships:

CryptoRelief acknowledged the significance of partnerships in generating synergy, avoiding duplication of efforts, and promoting resilience. The organization actively harnessed the existing initiatives and assets within the communities it served, nurturing authentic and organic collaborations. By forging alliances with like-minded organizations, governments, and local entities, CryptoRelief strived to amplify its impact and establish enduring transformations.

## 3. Committed to Long-Term Impact:

CryptoRelief recognized the importance of meticulous planning, effective execution, and a long-term perspective in driving meaningful change. They were dedicated

to undertaking sustained efforts, understanding that addressing intricate challenges necessitated time and unwavering commitment. By prioritizing lasting impact over temporary solutions, CryptoRelief strived to bring about lasting transformations that created a positive and enduring difference.

## 4. Promoted Equity and Sustainable Impact:

CryptoRelief remained committed to its mission by placing a high priority on solutions that foster equity and yield sustainable results. The organization actively worked towards addressing systemic inequalities and strived for solutions that left a lasting positive impact on the communities it served. By emphasizing equitable outcomes and embracing sustainable practises, CryptoRelief aimed to contribute to a more inclusive and resilient future.

**CRF enhanced COVID response through preparedness, revitalizing healthcare systems, and fostering collaborations for efficient healthcare solutions.**

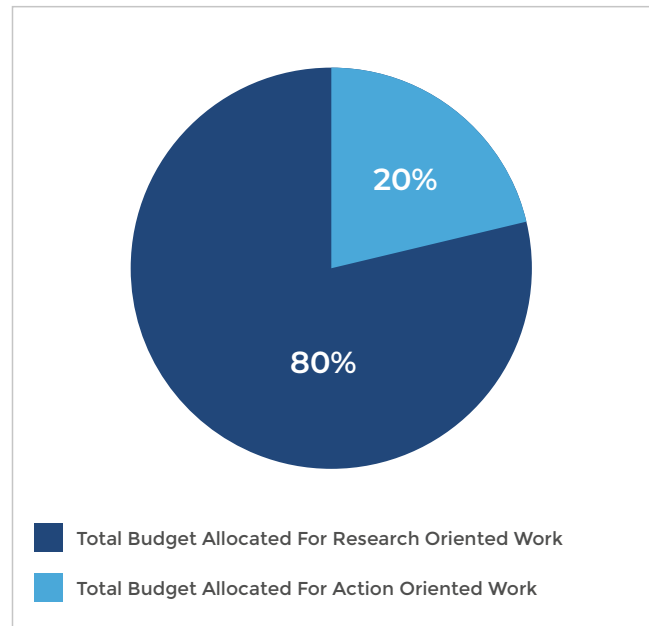
In light of the profound impact of COVID-19 and the potential for future large-scale pandemics and health crises, CRF faced significant challenges in both preparedness and response, even in well-resourced nations. Consequently, CRF undertook the following measures:

- **Preparedness:** Strengthened preparedness for health emergencies, encompassing pandemics and outbreaks.
- **Revitalization:** Revitalized local healthcare systems, ensuring their resilience and responsiveness to health needs during and beyond the pandemic.
- **Collaborations:** Facilitated collaborations among diverse innovators, innovations, and solutions to enhance the efficiency and effectiveness of the healthcare system.

**Highlighted below are some noteworthy initiatives supported by CRF grants:**

- Almost 80% of the entire budget was allocated to action-oriented programmes, with the remainder going to research projects.
- In terms of thematic areas, health received 75% of the expenditure, followed by livelihood and capacity building at 17%.
- According to activities, 41% of the budget was dedicated to health

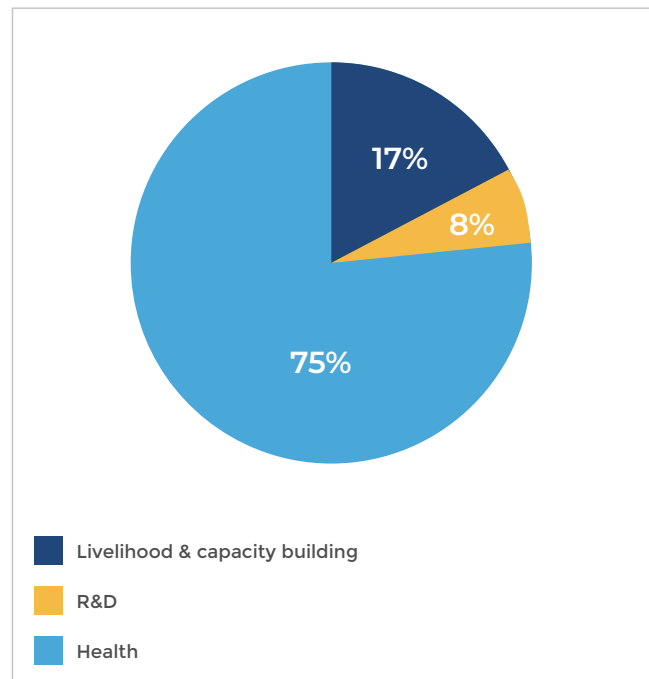
Figure 3 : Budget Allocation to Research and Action Projects



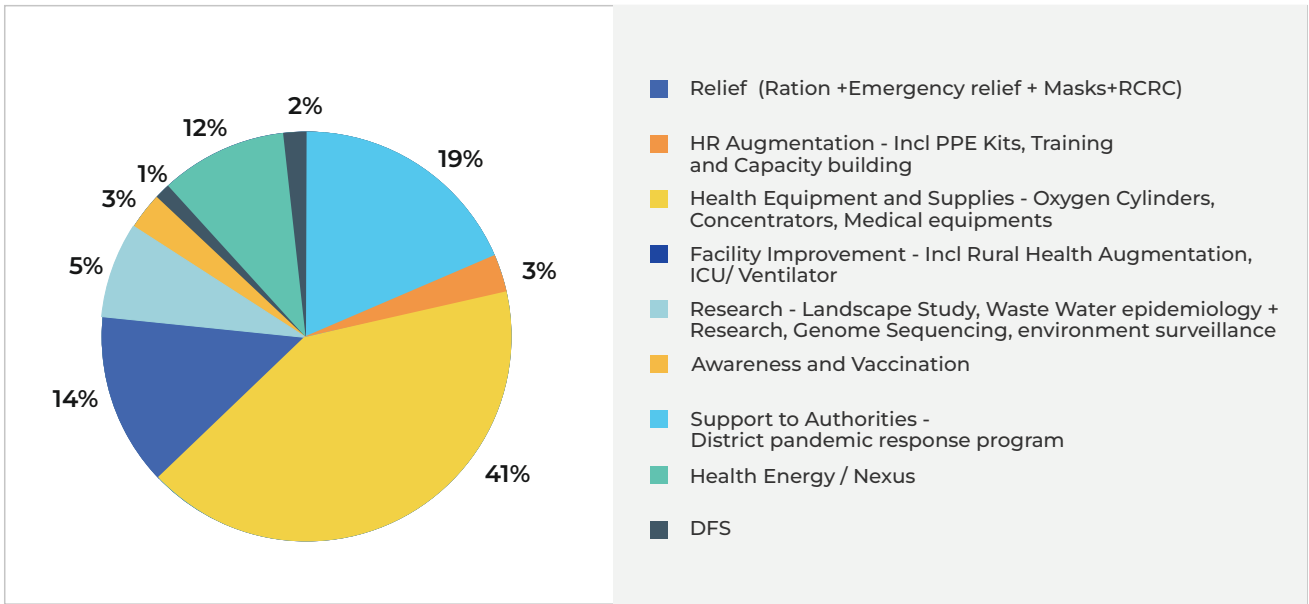
Source: CRF, Author's Analysis

equipment and supplies, with relief and facility improvement receiving 19% and 14%, respectively.

Figure 4: Budget Allocation Based on Thematic Areas

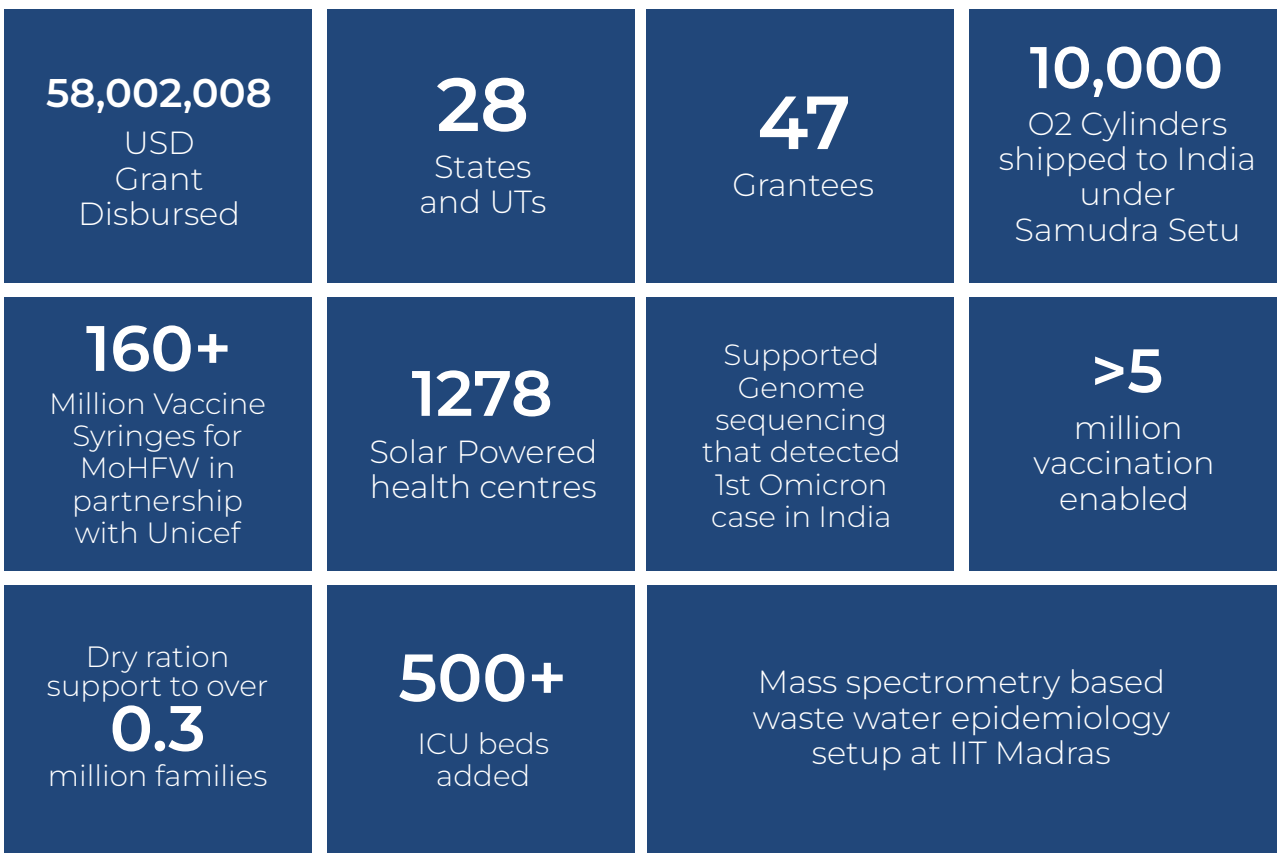


Source: CRF, Author's Analysis



Source: CRF, Author's Analysis

Figure 5 : Budget Allocation Based on Activities



Source: CRF, Author's Analysis

Figure 6 : Outreach and Impact of CRF

## 3.2 From Crisis To Hope: CRF's Transformative Contributions During The Pandemic

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### **Partnered with UNICEF India to procure and distribute vaccines in India.**

CRF collaborated with UNICEF India in a groundbreaking initiative to bolster the national vaccination campaign. With a dedicated investment of USD 15 million, CRF played a pivotal role in procuring over 160 million syringes, aiding the government's efforts to accelerate the immunization drive. The acquisition of syringes was of utmost importance, as it addressed the pressing challenge of limited supplies hindering vaccine distribution. Through this impactful partnership, CRF's contribution was profound, with approximately one in fifteen adults in India receiving vaccinations with the syringes provided.

This significant support significantly amplified the reach and effectiveness of the government's vaccination program, enabling a larger population to receive life-saving doses and fostering progress in the battle against the pandemic.

### **Supported initiatives like Anaxee's Digital Runners and VaxNow Community Action**

The introduction of COVID-19 vaccines in India was met with a wave of misinformation and rumors, hampering public confidence and impeding the widespread acceptance of vaccination. Recognizing this critical bottleneck, CRF lent its support to two pivotal initiatives aimed at addressing this challenge head-on.



**ANAXEE, a pioneering tech platform, introduced a network of Digital Runners.** These dedicated volunteers were stationed in rural areas, connecting with local communities and dispelling their doubts and concerns about vaccination. They played a vital role in guiding individuals through the registration process on the CoWIN portal and facilitating the acquisition of vaccination certificates. Within a remarkable 40-day span, this initiative engaged 3,000 registered runners, successfully reaching out to 85,000 villagers across 185 districts throughout India.

**VAXNOW,** an initiative by Community Action Collab, made a tremendous impact by administering over 10 million vaccine doses in districts across Karnataka, Tamil Nadu, Pondicherry, Haryana, Maharashtra, Andhra Pradesh, and Telangana. This transformative program leveraged a vast partner network and innovative strategies. Through a

comprehensive vaccination playbook, frontline workers were equipped with COVID-19 protocols and guidelines, ensuring effective vaccine administration. Additionally, the telecare solution "Call4Swasth" provided vital remote healthcare support. VaxNow's unwavering dedication to serving vulnerable populations played a pivotal role in safeguarding communities and advancing the fight against the pandemic.

### **Collaborated to establish ICU wards in remote districts through a PPP model.**

In a crucial endeavor to strengthen healthcare in rural areas, CRF joined forces with 10 Bed ICU, a collaborative initiative by eGovernments Foundation, Karuna Trust, and Nirmaan Organization. Their collective efforts focused on establishing 10-bed ICU wards in government hospitals across remote districts, addressing the urgent needs arising from the second wave of COVID-19 in India. This impactful project, implemented through a





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PPP model, witnessed active involvement from the Health Department of the respective states, ensuring the successful deployment and ongoing operation of these essential ICUs.

### **Provided grant to establish a wastewater-based epidemiology research facility at IIT Madras**

In 2021, CRF allocated a generous grant of 1 million dollars to establish a cutting-edge wastewater-based epidemiology (WBE) research facility at the esteemed Indian Institute of Technology Madras (IIT Madras). This visionary project aimed to establish an intelligence unit dedicated to the early detection and prevention of virus outbreaks, empowering advanced research and bolstering preparedness.

At the core of the WBE project was the analysis of chemical and biological molecules present in wastewater, achieved through water fingerprinting techniques and the tracking of pollutants, pesticides, licit and illicit drugs, as well as emerging concerns like antimicrobial resistance. Through this comprehensive approach, researchers gained valuable insights into the effectiveness of pharmaceutical and personal care product control policies, significantly improving public health outcomes.

The state-of-the-art research facility was meticulously designed, equipped with advanced instrumentation, and served as a hub for interdisciplinary studies. Utilizing this remarkable resource, researchers were able to identify and monitor the spread of COVID-19 within local communities, facilitating swift hotspot identification and helping authorities



From Project Site

to take necessary measures. The WBE project proved revolutionary in public health interventions, yielding remarkable benefits. By detecting the presence of the virus in wastewater, researchers could forecast community outbreaks up to a week in advance, enabling proactive preventive measures. Furthermore, the project shed light on virus patterns and transmission dynamics, empowering authorities to formulate more effective public health policies and strategies.

Through their support for the WBE research facility, CRF exemplified their unwavering commitment to advancing scientific understanding, enabling proactive measures, and safeguarding public health.

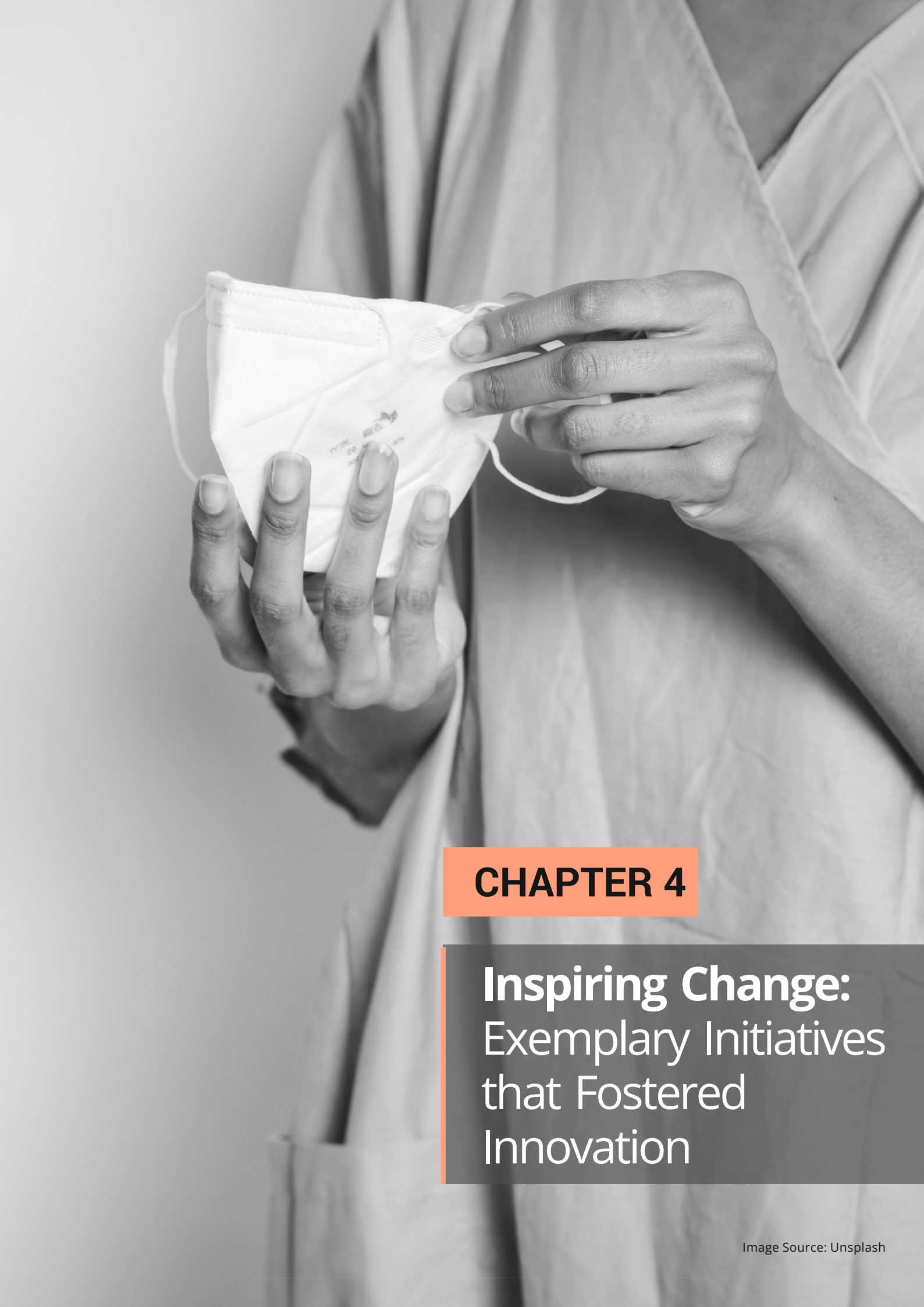
## Partnered with Give Foundation to establish boat clinics and a ship hospital ecosystem

CRF collaborated with Give Foundation to establish boat clinics and a ship hospital ecosystem, providing essential healthcare services to Assam's isolated riverine islands. These regions, plagued by natural disasters like floods and burdened with high infant and maternal mortality rates, received much-needed support. Looking ahead, CRF aims to introduce a funding fellowship to deploy skilled medical professionals on these floating clinics, ensuring sustainable healthcare access for these vulnerable communities. These transformative initiatives redefine healthcare delivery, empowering island populations in their battle for better health.

In conclusion, CRF's transformative contributions during the pandemic have been remarkable, spanning from vaccine procurement and distribution to innovative initiatives addressing misinformation, establishment of ICU wards, wastewater-based epidemiology research, and the introduction of boat clinics.



Through strategic collaborations, CRF has made a lasting impact on healthcare and paved the way for a more resilient and inclusive future.

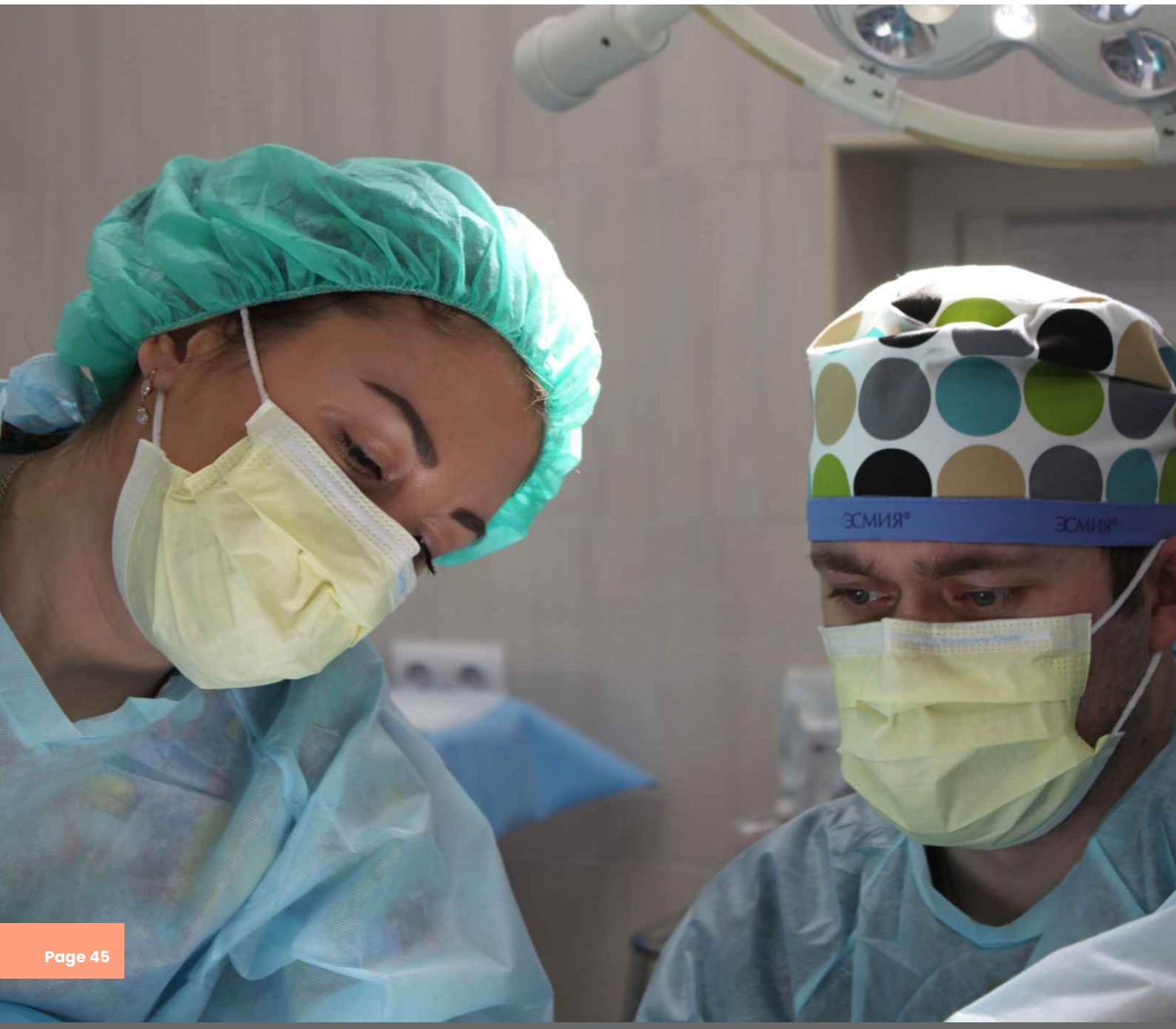


## CHAPTER 4

# Inspiring Change: Exemplary Initiatives that Fostered Innovation

## 4. Inspiring Change: Exemplary Initiatives that Fostered Innovation

Amidst the pandemic, a multitude of groundbreaking initiatives emerged, showcasing novel approaches, innovation, and collaborative efforts. Below, we delve into three exemplary cases that highlight the ingenuity and impact of these transformative endeavors.



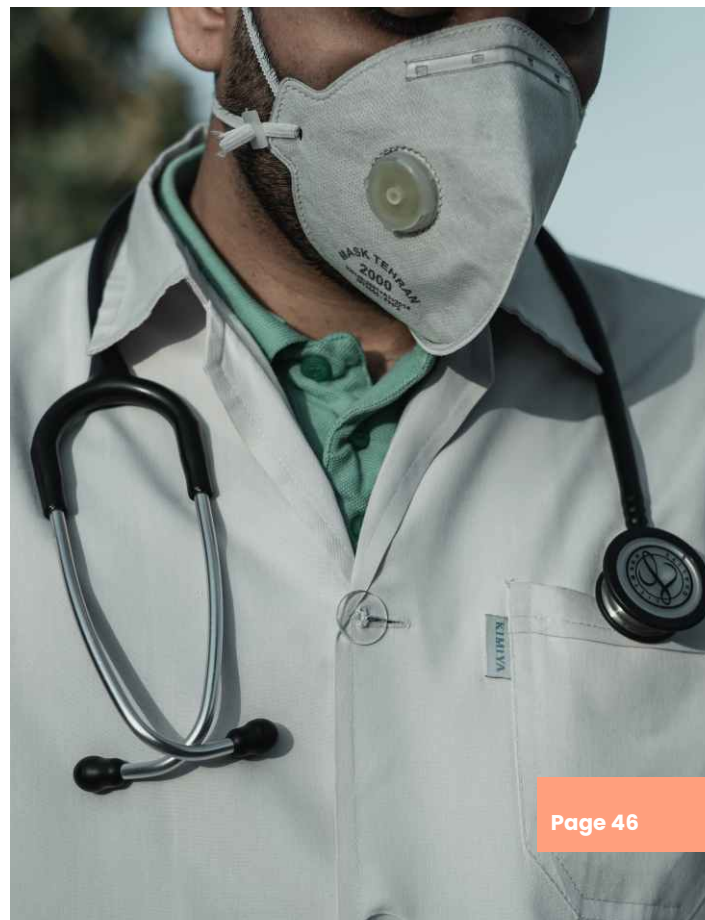
## 4.1 Rapid Community Response to COVID-19: Direct Action, Research, and Advocacy

### RCRC, backed by esteemed donors, united CSOs for COVID-19 response.

The Rapid Community Response to COVID-19 (RCRC) in India emerged as a collaborative force in 2020, uniting over 50 CSOs and backed by esteemed donors including Azim Premji Philanthropic Initiatives, Arghyam, Omidyar Network India, and Bill & Melinda Gates Foundation. With a vision for swift action, RCRC's working committee of nine members and one convenor spearheaded its formation. Focused on training and empowering member organizations, RCRC facilitated the development of research tools and the refinement of interventions. The selection of member organizations initially prioritized their impactful fieldwork and financial compliance. However, as the post-Covid era unfolds, RCRC continually refines its onboarding process, exploring new parameters. To sustain participation, member organizations contribute an annual membership fee to RCRC, solidifying their commitment to this vital initiative.

### APPROACH: Empowering Communities through Direct Action, Research, and Advocacy

RCRC adopts a comprehensive approach to its interventions, operating at all four levels including block, district, state, and national. They collaborate closely with NGO representatives in remote blocks while forging partnerships with district and state administrations throughout India. RCRC's engagement with partner members is facilitative and flexible, emphasizing transparency, accountability, and timely decision-making to address emerging needs and challenges effectively.



DIRECT ACTION	RESEARCH	ADVOCACY
Flattening the curve, e.g., awareness raising, and quarantining	Migrant Workers	NREGA
Minimising impact on vulnerable communities in the village, e.g., reducing vulnerabilities of small farmers, landless, the women, and the tribals	Access to PM Garib Kalyan Yojana	Credit needs of farmer producer organisations (FPOs)
Minimising impact on migrants	Engagement in Livelihood since the Lockdown	Cooperatives and SHGs
Ensuring reach of Special Government Packages at Last Mile, e.g., PM Garib Kalyan Yojana, and NREGA	Livestock Management	Entitlements under Prime Minister Garib Kalyan Yojana
Enabling Community Based Organisations including Gram Panchayats to participate and contribute	Liquidity – Cash in hand	
Psycho-Social Counselling	Collection of Non-Timber Forest Produce (NTFP)	
Support to Government staff, e.g., healthcare workers	Community Institutions	
Planning Future Intervention post COVID Crisis	Wellbeing	

Source: RCRC, Author's Analysis

Figure 7: RCRC's Approach to Direct Action, Research and Advocacy

**The intervention strategy of RCRC revolves around three key pillars.**

- Firstly, they undertake direct actions to alleviate the impact of the pandemic on vulnerable groups, providing them with necessary support.
- Secondly, RCRC conducts research on vulnerable groups, government schemes, and other relevant areas, generating insights to inform their initiatives.

- Lastly, RCRC advocates for crucial topics such as NREGA, SHGs, and more, aiming to drive positive change and create an enabling environment for marginalized communities.

Through this multifaceted approach, RCRC strives to make a tangible difference in the lives of those affected by the pandemic.

## RCRC's success is rooted in diligent practices, commitment, and agile strategies

The success of RCRC can be attributed to its diligent practices and unwavering commitment since its inception. A dedicated working committee met daily, virtually, to address the emerging needs of communities affected by the pandemic. The leadership demonstrated relentless dedication and remained true to their commitment and passion throughout the process. Regular attendance meetings of general body conducted every 15 days allowed them to address emerging needs and devise strategies to tackle new challenges effectively. Their proactive and agile approach enabled RCRC to provide crucial support and meet the evolving requirements of communities in a timely manner.





### **RCRC prioritized collaboration and transparency through accessible platforms and streamlined data sharing**

To ensure effective collaboration and transparency, RCRC utilized widely accessible platforms like Google Docs for due diligence and documentation. A Management Information System (MIS) platform was implemented to track and monitor beneficiaries and measure project impact. RCRC, in consultation with

its MIS partner and twenty member organizations, developed indicators such as the number of beneficiaries receiving kits, masks distributed, and vaccinations administered to gauge outreach and impact. Live data of vaccination-related beneficiaries was uploaded daily, fostering transparency and motivating members to sustain their impactful efforts in reaching out to communities. This streamlined approach enabled efficient data sharing, enhanced accountability, and encouraged ongoing progress in outreach and impact.

## RCRC addressed challenges related to funding limitations, and time constraints through working committees

Throughout the course of the initiative, certain minor inconveniences and challenges were encountered.

- One notable aspect pertained to funding limitations, as regulations prevented the sub-granting of foreign funds to other member organizations in case of emergent needs.
- Additionally, as RCRC's efforts became more research-focused and structured, some member organizations faced difficulties in keeping pace and allocating sufficient time to support RCRC's endeavors. This was largely due to the reopening of offices and the resumption of pre-Covid roles and responsibilities.
- Furthermore, volunteers and students who played active roles during the initial stages had to return to their respective colleges and universities as classes resumed post-Covid.

However, these challenges were addressed and overcome through ongoing streamlining efforts undertaken by the working committees within RCRC.



**RCRC's collaborative approach, inclusive discussions, and effective mobilization of funds demonstrated its commitment during the pandemic.**

RCRC adopted a collaborative approach to tackle the challenges posed by Covid-19, emphasizing extensive group discussions and consultations with its members. This collective brainstorming process aimed to devise solutions that were not only efficient but also highly impactful, contributing

significantly to RCRC's achievements. The organization successfully facilitated funding opportunities and provided a platform for various organizations to unite and work together.

**A major milestone for RCRC** was securing an early fund of 500 million INR, which was swiftly mobilized to address the urgent needs arising from the pandemic, showcasing RCRC's commitment to timely and effective response efforts.

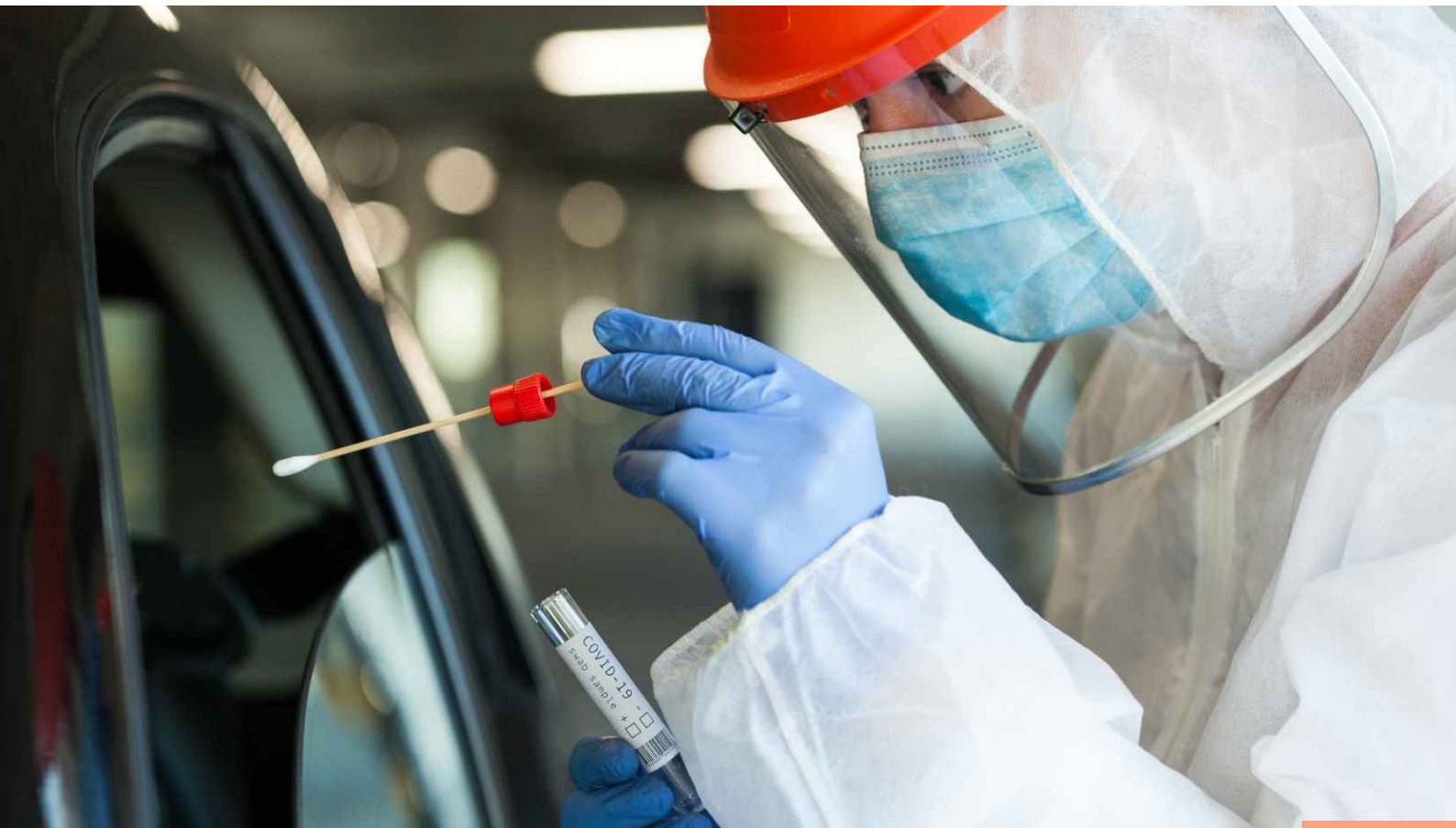


## RCRC shifts towards capacity building and research in the post-pandemic era

In the aftermath of the COVID-19 pandemic, there has been a noticeable shift in focus from public health to other vital areas such as capacity building, training, research, and large-scale collaborative programs, primarily implementing programs that pertain to livelihood creation and generation. RCRC, recognizing the significance of evidence-based research, has prioritized the thematic and organizational capacity building of smaller organizations. Furthermore, RCRC is actively addressing sectoral needs and strengthening value chains through partnerships with students, marketing agencies, social entrepreneurs, and women in business. The objective is not limited to

advocacy alone but also encompasses practical implementation, including actions like data collection and presenting findings to the administration.

By fostering collaboration and leveraging knowledge, RCRC seeks to drive positive change and address emerging challenges in the evolving landscape of the new normal.





Source: RCRC, Author's Analysis

Figure 8:  
Outreach and Impact of RCRC

## IMPACT STORY:

### Jan Dhan Cash Transfers: Nationwide Assessment Reveals Surprising Findings



Cash transfers to Jan Dhan account holders were a key component of the Rs 1.76 trillion relief package unveiled by Finance Minister Nirmala Sitharaman. The objective was to provide 500 rupees to 200 million female Jan Dhan account holders. To assess the disbursement process, the Rapid Community Response to COVID-19 (RCRC) coalition swiftly conducted a nationwide assessment.

The assessment revealed that nearly 90% of Jan Dhan accounts were active, except in Uttar Pradesh, Maharashtra, and Punjab. In the remaining states, approximately 90% of Jan Dhan accounts were operational. Among those with active accounts, 66% confirmed receiving the 500 rupees, while 15% reported not receiving any money. Additionally, around 20% were uncertain about the funds' arrival in their accounts.

## 4.2 Community Action Collab: Building Resilience Through Collaboration

**CAC is building resilience in areas of sustainability, environment, climate, and health.**

Community Action Collab (CAC), formerly known as Covid Action Collab, is a dynamic platform for humanitarian emergencies. It works towards building resilience in vulnerable individuals and institutions, equipping them to navigate everyday challenges and prepare for future disasters. With a thematic focus on sustainability, environment, climate, and health, CAC aims to foster long-term resilience and ensure the well-being of communities.

**CAC effectively coordinated with 360 partners to address COVID-19 challenges**

Emerging during the pandemic, CAC has played a pivotal role in coordinating and guiding the efforts of 360 partners, government entities, and coalitions. Through its 28-year experience, Catalyst Group, as the incubator and backbone entity, fosters sectoral action. CAC has demonstrated its effectiveness by delivering 25 million services to 15 million vulnerable individuals, addressing critical challenges and needs arising from the COVID-19 crisis. With a significant impact on 10 million vulnerable people, CAC has established itself as a vital platform for promoting resilience and driving positive change in humanitarian emergencies.

CAC's partner network encompasses Implementers such as NGOs, Community-Based Organization (CBOs), government bodies, and private sector organizations, as well as Providers of human resources, finance, and technology, and Enablers including policy makers, academia, and industry associations.





### **CAC empowers communities by orchestrating, influencing, and solving challenges collaboratively**

CAC adopts a comprehensive approach to intervention, focusing on three key strategies to empower vulnerable communities in times of crisis:

- **Orchestrate:** Establishing efficient governance systems that facilitate dynamic network effects, with nodes actively addressing the needs of the vulnerable and mobilizing human capital for emergency response.
- **Influence:** Driving substantial policy and practice changes by collaborating globally and amplifying critical components and issues.
- **Solve:** Implementing scalable solutions, ensuring swift response times, and enabling integrated action at the district level.

### CAC's Governing Council shapes policies, partnerships, and collective actions

The modus operandi of CAC involves a weekly meeting of the esteemed Governing Council comprising experts from various fields. Their role is to define and refine principles, policies, partnerships, programs/actions, resource allocation, and review processes for

collaborative efforts. The council ensures close engagement with key decision-makers from government, private sector, civil society, and communities, incorporating their perspectives to drive collective action. With a wealth of knowledge in health, livelihoods, disaster management, food supplies, bureaucracy, academia, and technology, the Governing Council brings invaluable insights to CAC's operations.

Synergize Resource Access And Effort Allocation In A Quick And Effective Way

Strengthen connections and cooperation at various levels within the bigger network

Accelerate transformative impact in keeping with the changing/emerging needs of the vulnerable communities

Source: CAC, Author's Analysis

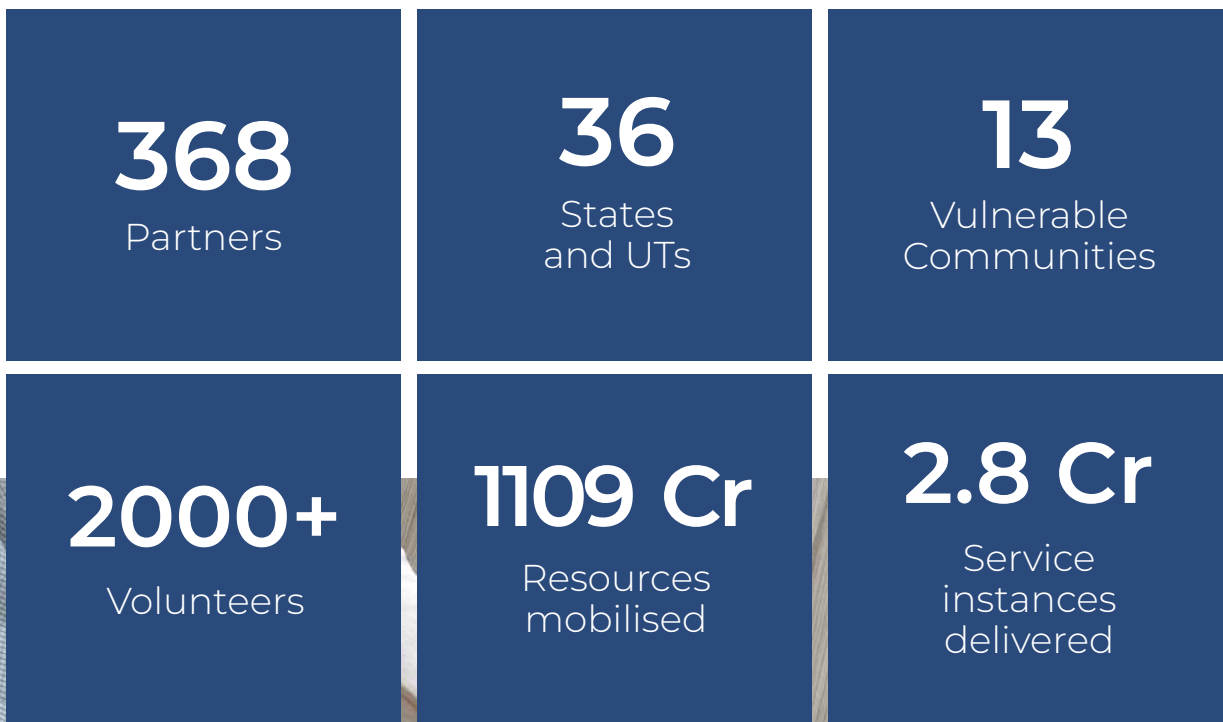
Figure 9: Mission of CAC



**CSOs collaborate for impactful response, benefiting vulnerable individuals and communities**

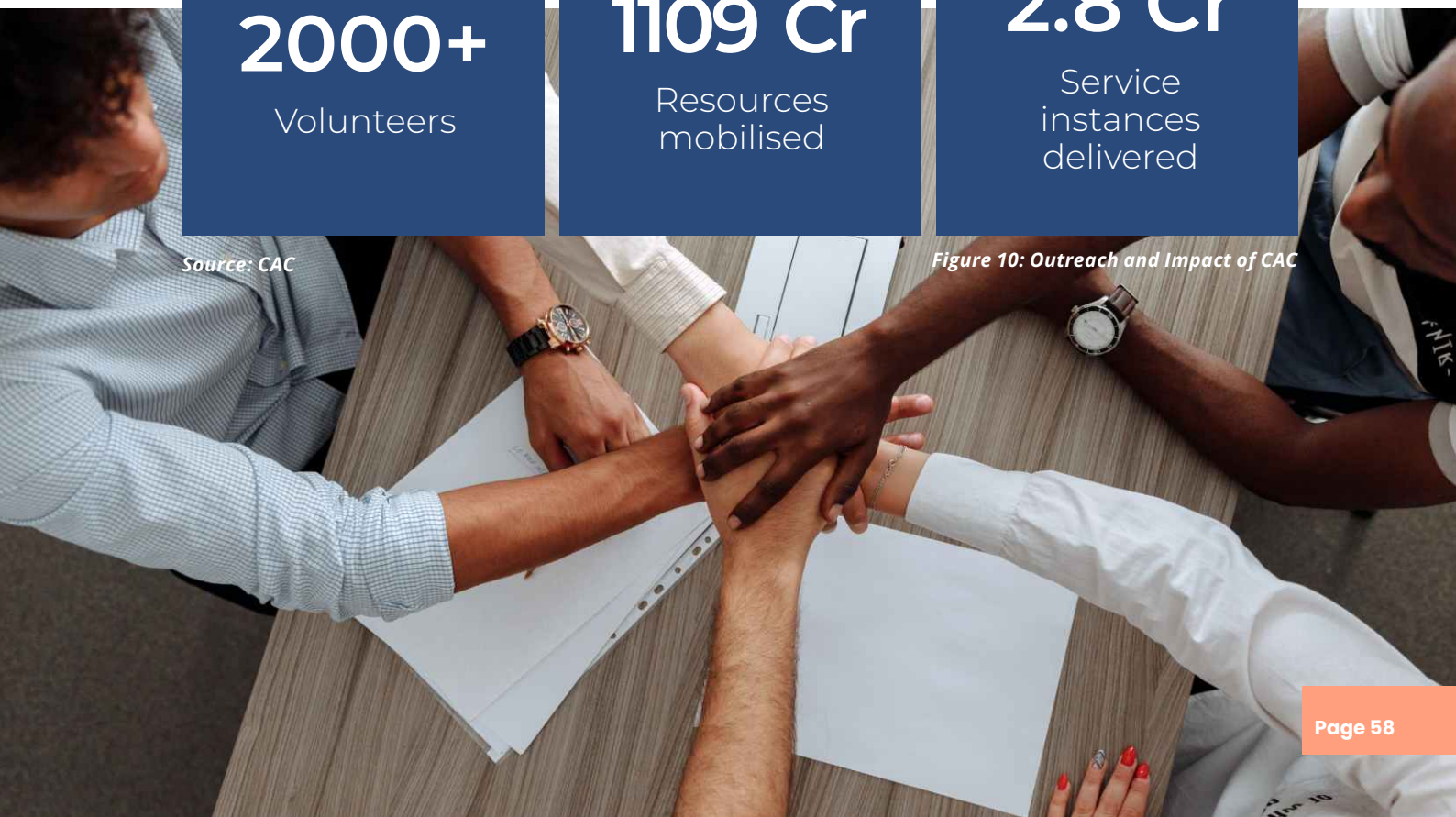
The power of collaboration has been evident in CAC's journey, where organizations come together on a unified platform for greater impact. The urgency of the pandemic response has motivated CSOs to expand their reach and forge partnerships with new community groups. Through training, they have embraced new volunteer projects,

stepping out of their comfort zones. This collaboration provides CSOs with access to knowledge and education, bolstering their authority, credibility and confidence. Governments and donors benefit from supporting a group of CSOs with specialized money, amplifying the effectiveness of their response. As CAC and its partners work towards the well-being of vulnerable individuals, they continually adapt their approaches and strategies, placing the people in need at the heart of their interventions.



Source: CAC

Figure 10: Outreach and Impact of CAC



## IMPACT STORY:

### Reviving Lives through Livelihood Support: Suguna's Story of Resilience

In the SLPMS community resides Suguna (name changed), a single mother raising two daughters. Two decades ago, her husband operated a successful roadside vada stall that not only provided a stable income but also enabled their children's education. However, after her husband's passing, Suguna managed the business alone until last year when the pandemic and subsequent lockdowns severely impacted her livelihood. Faced with financial strain, Suguna's elder daughter had to abandon her 12th-grade studies and join a company to support the family. Recognizing the challenges faced by individuals like Suguna, SLPMS collaborated with CAC to mobilize resources. Through their network, they connected with donors and secured assistance to help Suguna revive her vada stall. With the financial support she received, Suguna successfully reopened her business and began earning enough to sustain her family.



During a visit from SLPMS Manager Shalini, Suguna expressed her deep gratitude and credited the livelihood support through CAC for helping her rebuild her life. Despite facing competition in the market, Suguna's perseverance paid off as her loyal customers returned when she reopened her stall.



*Suguna's story exemplifies the impact of community-driven initiatives like SLPMS and CAC in empowering individuals to overcome adversity and regain their financial independence. By providing necessary support and resources, these collaborations enable vulnerable individuals to rebuild their lives and create a brighter future for themselves and their families.*



## IMPACT STORY:

### Creating Waves of Change: CAC's Sustainable Impact on the Koliwada Fishing Community

In the Koliwada fishing community, CAC facilitated collaboration among resource, academic, and grassroots organizations to create a sustainable impact. By leveraging each other's expertise and filling gaps when needed, these organizations aimed to empower the community. Instead of solely relying on donations, the community found ways to sustain themselves during lean months. One such initiative involved women in the community learning to make affordable masks as an alternative to expensive N-95 masks. These masks were then distributed to large corporations and factories. The women received online tutorials to acquire the necessary skills and even partnered with a team of doctors to provide online consultations. This collaborative effort not only empowered the women economically but also addressed the need for affordable protective equipment and accessible healthcare services in the community.

Moving ahead, the collective's focus lies in strengthening the operational efficiency of partner organizations and their existing networks. Additionally, a promising path forward involves prioritizing aspirational districts to maximize the program's impact and

provide professional assistance to the District Administration in devising and executing interventions that address the community's requirements in times of health crises and climate emergencies.

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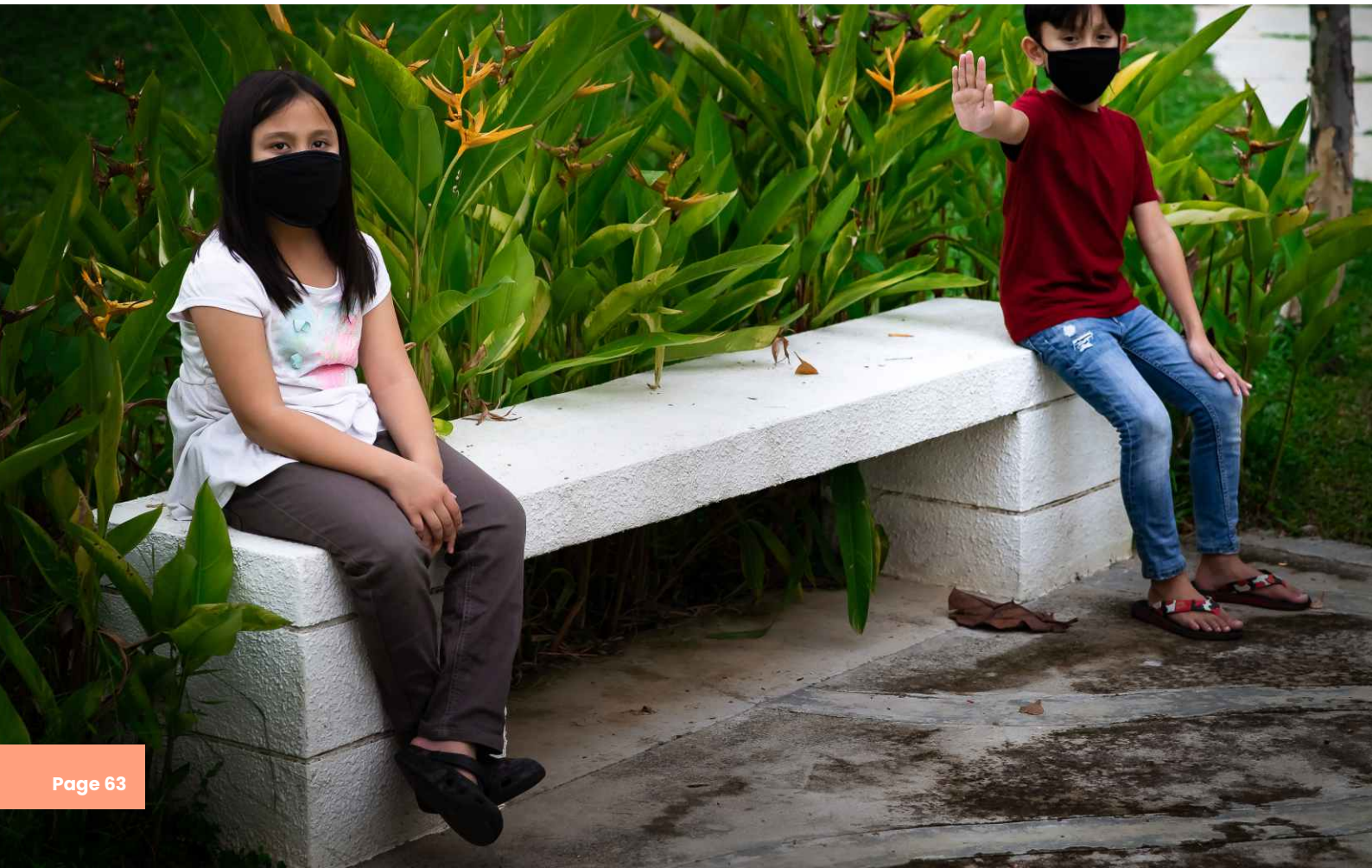


## 4.3 ACT Grants:

### Mobilizing Resources for Transformative Social Impact

**ACT Grants acts as a Philanthropy platform driving social impact through collaboration**

ACT Grants, established in 2020 as a non-profit venture philanthropy platform, arose as a direct response to the COVID crisis. Rooted in the belief that collective action holds immense potential to drive substantial social impact on a broad scale, ACT Grants has garnered recognition for its strategic approach.





**Founded by visionaries Dhruvil Sanghvi, Maya Chandrasekaran, and Payal Banerjee**, the platform commenced with an impressive INR 1 billion grant earmarked for combating the challenges posed by COVID-19. Leveraging the combined expertise of venture capitalists, tech entrepreneurs, and social impact specialists, ACT Grants successfully mobilized resources and financial support to address critical needs. With a growing number of individuals joining as donors, volunteers, advisors, partners, and dedicated staff members, the collective's focus gravitated towards key areas of significance. Embracing collaboration, adaptability, and innovation, ACT Grants continues to epitomize the potential unleashed when diverse stakeholders unite to effect meaningful change. Through their concerted efforts, ACT Grants aims to usher in transformative solutions, making lasting positive contributions to communities at large.



### **ACT Grants swiftly expanded to influence decision-making, and support start-ups**

Driven by a core group of 10 individuals forming the initial investment committee, ACT Grants swiftly expanded its reach by attracting more participants to join their cause. The venture's robust Program Management Unit garnered valuable support from dedicated volunteers. As the pandemic's first and second waves ravaged the nation, the founders directed their attention towards addressing critical priorities. Their comprehensive approach encompassed the implementation of preventive measures, provision of life-

saving oxygen concentrators, establishment of tele ICU services, promotion of immunizations, and facilitation of mental health counseling. Simultaneously, close collaboration with the government's Covid Taskforce ensured alignment and effectiveness of their endeavors. ACT Grants also extended support to start-ups, enabling them to conduct pilots and experimental initiatives within the COVID response domain. The outcomes of these trials informed the government's decision-making, determining the viability of scaling up projects based on their success or failure.

## **ACT Grants focused on building resilience through oxygen supply, vaccination drives, and home care practices**

With the intensifying grip of the pandemic, ACT Grants extended its operations from select priority states to even the most remote regions of the country. Their approach concentrated on three main impact areas: prevention of COVID-19 transmission, combating the

virus's effects, and building long-term resilience for both COVID-19 and future challenges. Amidst the second wave of the pandemic, their response strategy encompassed three key pillars: ensuring a steady supply of oxygen, facilitating vaccination drives, and promoting effective home care practices. For a comprehensive overview of the initiative's accomplishments, refer to Exhibit 11, which provides a concise summary of the impactful outcomes achieved.



### Bias for action

Sense of entrepreneurial urgency consistently demonstrated by every collaborator

### Collaboration

Unlikely stakeholders from Samaaj (society), Sarkar (government) and Bazaar (industry) worked together to unlock diverse resources

### Urgency

An all-hands-on-deck method to execution and all approvals cleared within a day

### Transparency

Complete transparency in demand generation and allocation with all data published real time

### Equitability and Inclusiveness

We sought the farthest first and we acted on emerging hotspots early

### Oversight

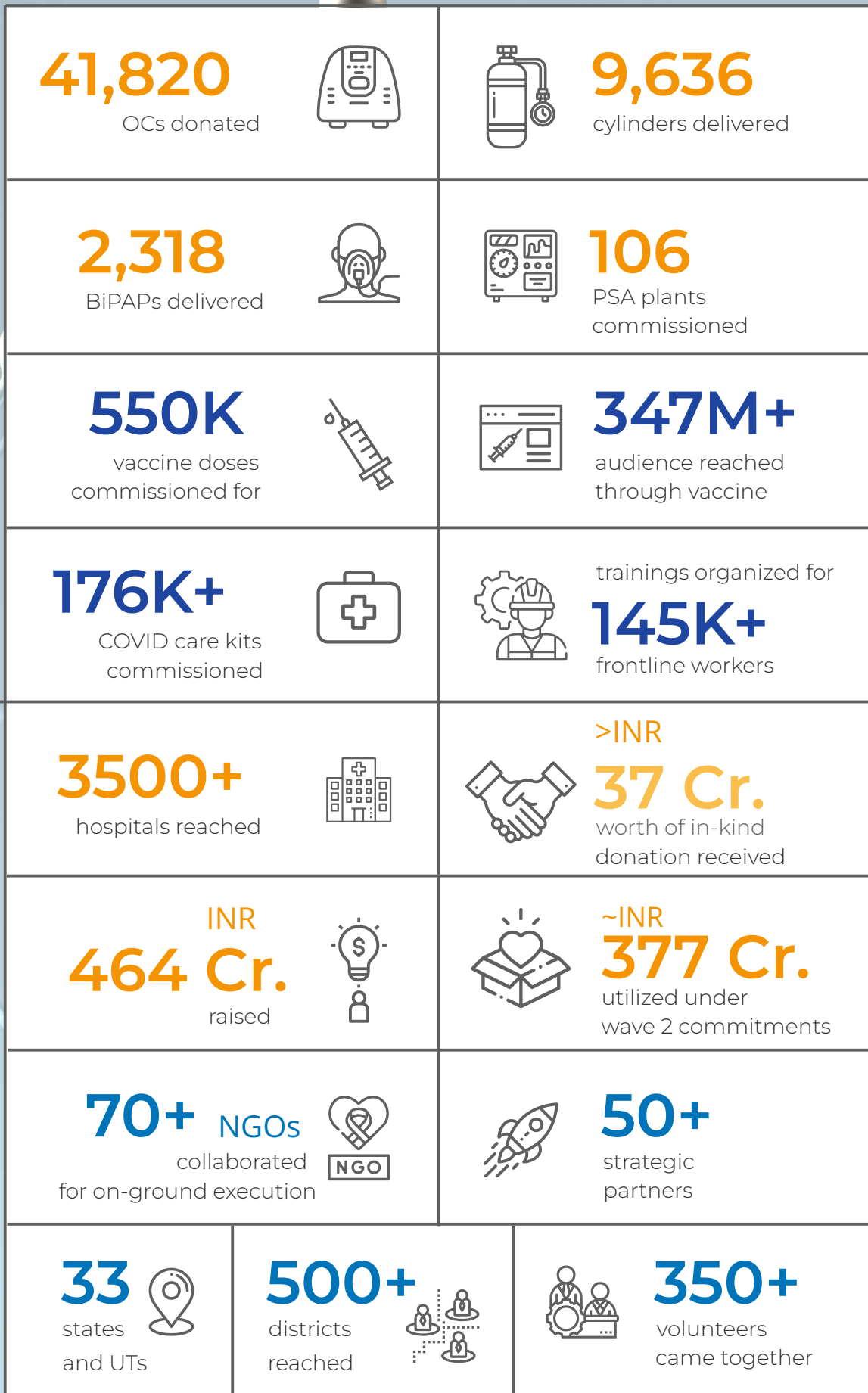
Checks and balances at every step of the way through steering committees and advisory committees

### Capacity Building

Crisis response support to health system strengthening when data revealed a deceleration in the surge

### Monitoring and Evaluation

Continuous monitoring and tracking with constant troubleshooting to ensure devices are ready for use rapidly



Source: ACT Grants

Figure 12: Outreach and Impact of ACT Grants

## IMPACT STORY:

### Rapid Response in Action: Oxygen Concentrators Delivered in Goa Hospitals

During the peak of the second wave, Goa faced a dire situation with 145 COVID-related deaths in just two days. Responding to an urgent request from senior government officials, ACT Grants swiftly mobilized to deliver life-saving oxygen concentrators (OCs) within a tight 24-hour timeframe. Collaborating with the Goa state government's bureaucrats, ACT Grants coordinated with the Indian Air Force (IAF) to airlift the OCs to the state, ensuring their prompt arrival at hospitals in a matter of hours. This seamless partnership facilitated the provision of 323 OCs by ACT Grants.

The critical need for oxygen in Goa necessitated swift and efficient delivery methods to reach those in urgent need. ACT Grants recognized this urgency and worked diligently to facilitate the rapid transportation of OCs, thereby addressing the immediate healthcare needs of the community.



*The people of Goa were in desperate need of oxygen, and we understood the importance of expedited delivery to their destinations. We leveraged every possible avenue to ensure prompt assistance.*


**ACT Grants Team**



## IMPACT STORY:

### Connecting Hope and Healthcare: EkSaath Healthline Comprehensive Support

**EkSaath Healthline**, a collaborative initiative led by ACT Grants, has been established as a one-stop platform to provide free doctor consultations, mental wellness sessions, and vaccine-related assistance to citizens, frontline workers, and district administrations throughout India. In partnership with start-ups and non-profit organizations like StepOne, Swasth, and ePsyClinic, EkSaath Healthline offers a range of services, including doctor consultations, vaccine-related support, and mental wellness services.



**With its availability in six languages: Hindi, English, Marathi, Gujarati, Tamil, and Kannada** - the Healthline ensures accessibility for diverse communities. During the challenging second wave, a dedicated team of 150 volunteers handled an average of 100 calls per day per volunteer, delivering essential care and support to those in need.

## IMPACT STORY:

### Critical Care in Crisis: Transforming Vistex Hospital in Masarhi, Bihar

Situated 40 kilometers from the capital city of Patna in Bihar, Masarhi is a community of approximately 10,000 residents. The Vistex Hospital in Masarhi, known for its accessibility via well-connected roads, witnessed a significant influx of patients. Recognizing the urgent need for critical care, the 50-bed facility was repurposed into a dedicated COVID care hospital in August 2020. ACT Grants played a vital role in supporting this initiative by providing essential resources. The intervention included the provision of 100 D-type oxygen cylinders, five

ventilators, and one transport ventilator.



*One unique thing about ACT Grants is how it understands the need on the ground and responds swiftly, which is critical for any disaster management response. Compared to other funding partners, ACT is also willing to support in rural and isolated areas which need quick intervention.*

**Dr. Ravikant Singh,  
Founder, Doctors for You (DFY)**



## ACT Grants shifts focus to collaborative innovation, fostering sustainable social impact

ACT Grants is poised to embark on a new phase, shifting its focus from immediate community action to fostering collaborative efforts that drive innovative solutions addressing complex social challenges at scale. Beyond the realm of COVID-19 response, ACT Grants recognizes the importance of collective action across sectors such as education, healthcare, climate action, and gender inclusivity.

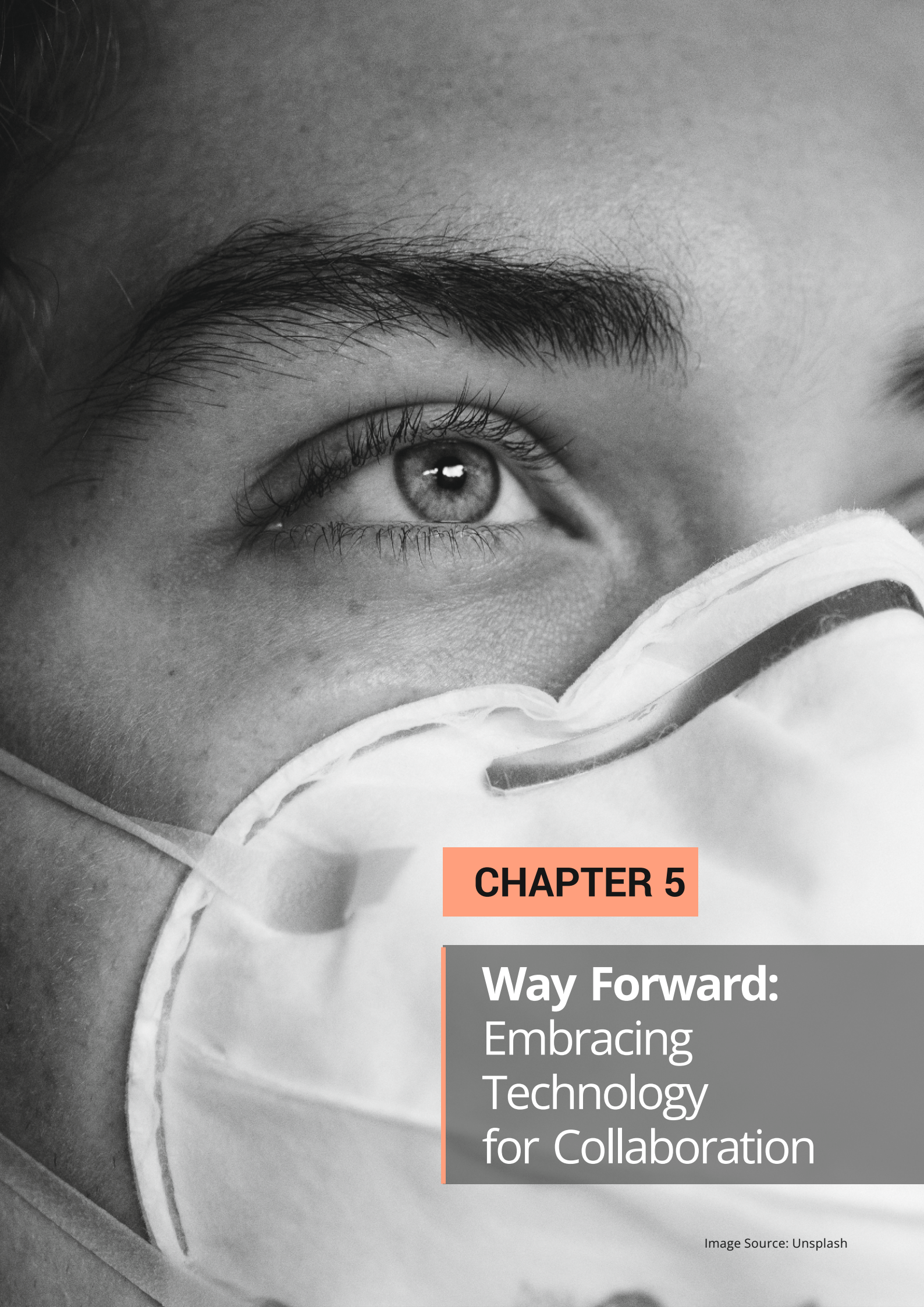
Even as the COVID-19 pandemic subsides, the collective impact of emerging organizations and collectives in India

continues to bridge gaps within the healthcare system. The transformation of the Covid Action Collaborative into the Community Action Collaborative signifies an evolution while maintaining a steadfast mission. Additionally, RCRC remains dedicated to empowering grassroots organizations and strengthening community resilience in the face of emergencies. ACT Grants, on its part, is actively championing innovative approaches to effectively tackle similar crises.

By fostering collaborations, encouraging innovation, and prioritizing sustainable social impact, ACT Grants envisions a future where transformative solutions thrive and contribute to a resilient and inclusive society.

In conclusion, the exemplary initiatives highlight the transformative impact of collective effort, adaptability, and innovation in driving positive change during times of crisis. These initiatives serve as inspiration for future endeavors in navigating and overcoming challenges.





## CHAPTER 5

# Way Forward: Embracing Technology for Collaboration

## 5. Way Forward: Embracing Technology for Collaboration

### CRF prioritizes multi-stakeholder engagement for pandemic resilience

Following the first wave of Covid-19, CRF and its partners recognized the need to assess the health ecosystem comprehensively to address systemic issues hindering the pandemic response. This urgency grew stronger after the more severe second wave. In addition to livelihood support and mask distribution,

research on genome sequencing and surveillance emerged as crucial. Curating multi-stakeholder engagement became pertinent in navigating the challenges. CRF and its partners are committed to a holistic approach, focusing on research, surveillance, and collaboration to fortify the health ecosystem's resilience. Their aim is to overcome systemic barriers and enhance preparedness not only for Covid-19 but also for future pandemics.



## CRF's institutional focus on programmatic verticals and enabler verticals

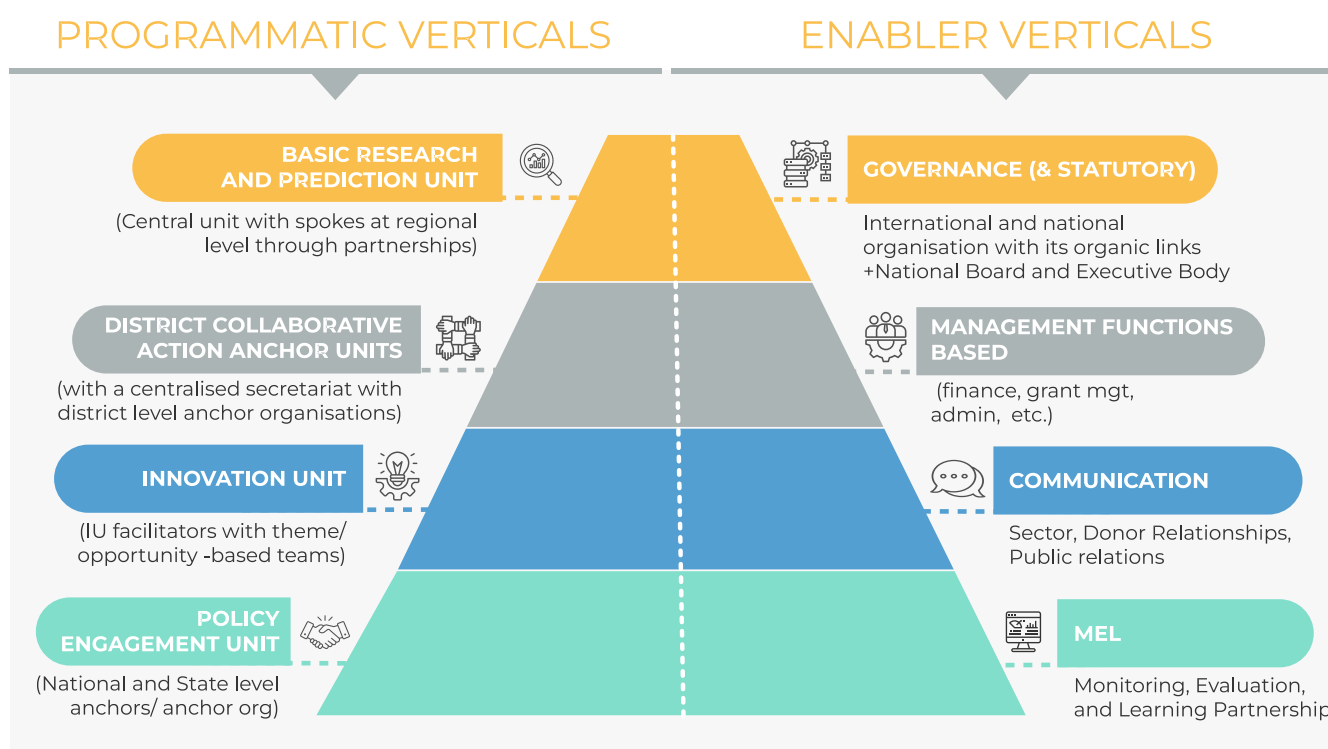
### CRF plans to adopt an Institutional Framework (Exhibit 13) with a dual focus

- **Programmatic Verticals:** One part will concentrate on programmatic verticals, including research, innovation, policy engagement, and district collaboration.
- **Enabler Verticals:** The other part will address enabler verticals like governance, management, communication, and monitoring, evaluation and learning (MEL).

This strategic approach aims to enhance effectiveness and coordination within the organization, enabling targeted actions and efficient execution.

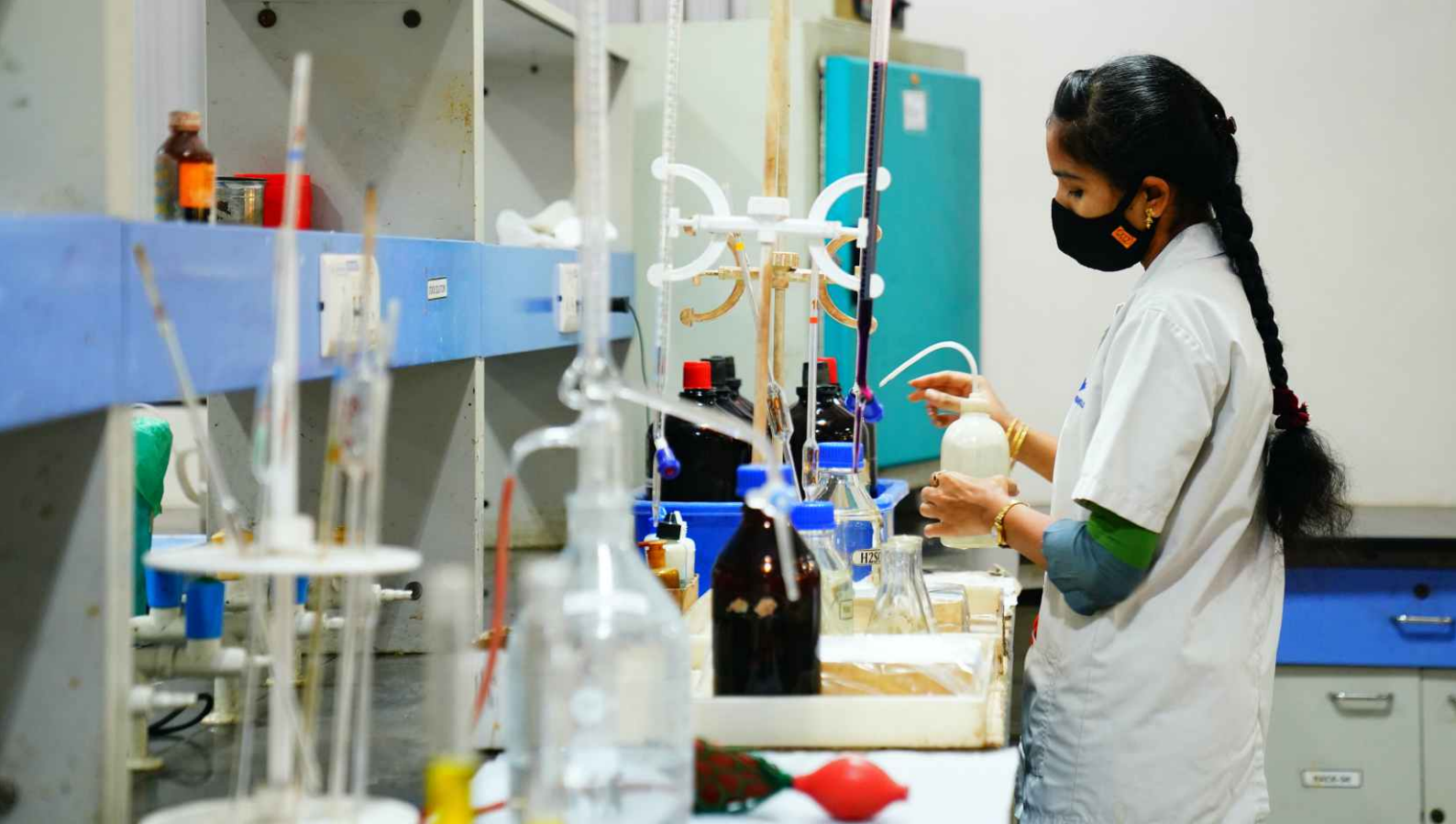
## CRF explores blockchain to enhance transparency and social impact

Recently in a strategic move, CRF has decided to broaden its narrative beyond relief efforts by embracing blockchain technology and its potential for social impact. This initiative is currently in its pilot stage, with plans to establish its organizational structure in the future. Globally, blockchain has been utilized by non-profits and civil society organizations to ensure transparency in managing donor funds. It has also demonstrated its value in various areas, such as predicting service delivery in mid-day meal schemes, facilitating humanitarian assistance during crises, ensuring supply chain transparency, and more. By leveraging blockchain in healthcare, CRF aims to facilitate secure management of healthcare data, disease tracking, outbreak surveillance, and numerous



Source: CRF

Figure 13: Prospective Institutional Framework



other possibilities. This development will also influence the organizational structure of CRF moving forward.

### **Healthcare landscape study identified gaps, proposed strategies for resilience and collaboration**

As part of the new institutional structure, an in-depth study of the healthcare landscape was conducted to identify gaps within the ecosystem and propose strategies for addressing them. The objective was to comprehensively assess the healthcare system and provide actionable recommendations for improvement.

CRF has awarded a grant to BVT for a study on enhancing healthcare system resilience. The study aims to address untimely events like pandemics and foster collaboration among stakeholders (non-profits, government agencies, research institutions, communities). It

also seeks to strengthen innovative solutions emerging from these uncertainties. The goal is to drive sustainable improvements in healthcare systems, enabling effective responses to future challenges.

The study proposal was initially put forth in June 2021 and received approval by September 2021. It was scheduled to be conducted from December 2021 for a one-year period. However, due to the prioritization of Covid-19 response activities, the study was postponed by a few months and resumed in the final quarter of 2022. During this time, the ongoing relief efforts and collective research of CRF's grant partners provided valuable insights to refine the study's objectives.

Based on the study's findings and the lessons learned from pandemic relief activities, two initiatives have been developed, as described below.

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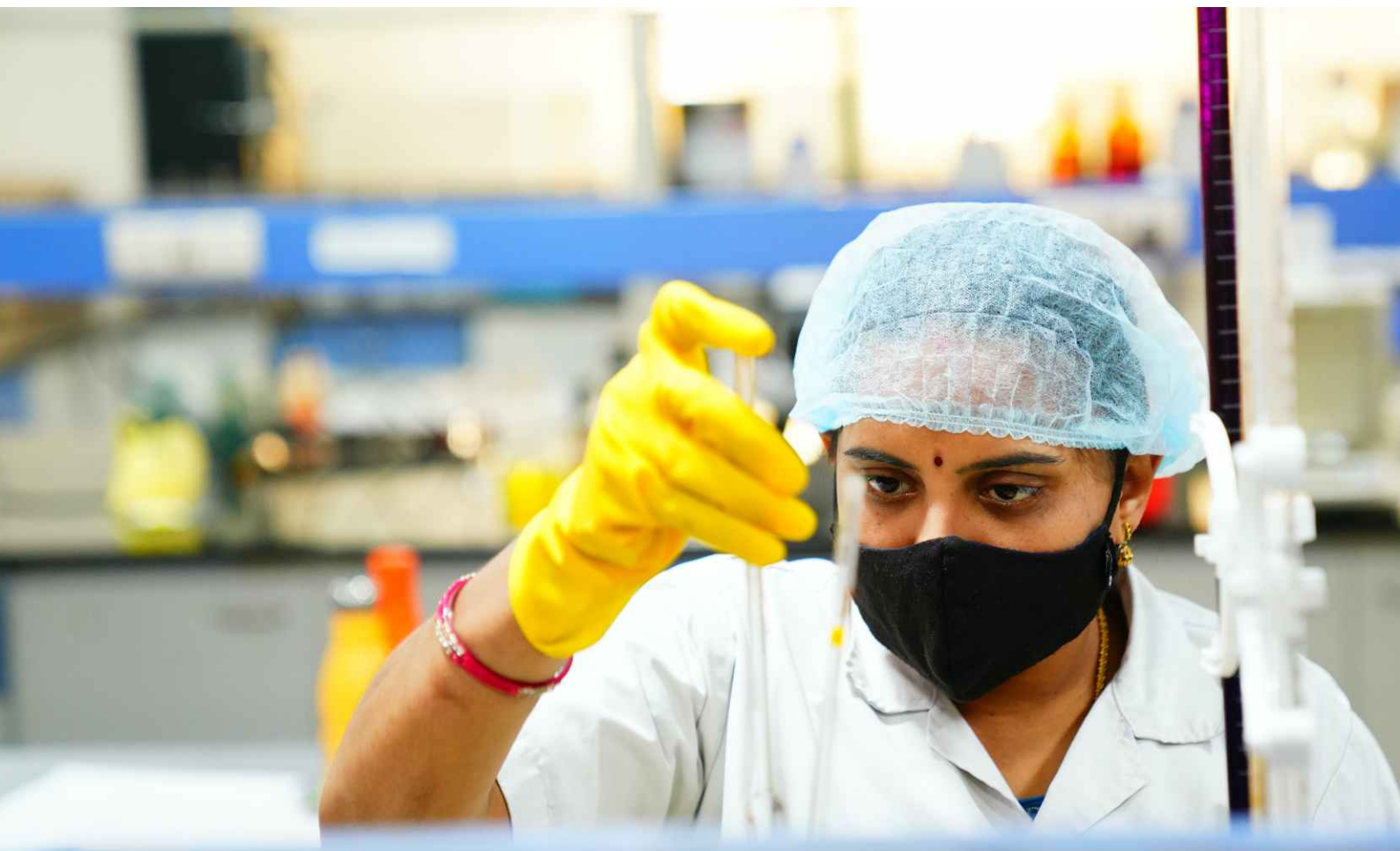
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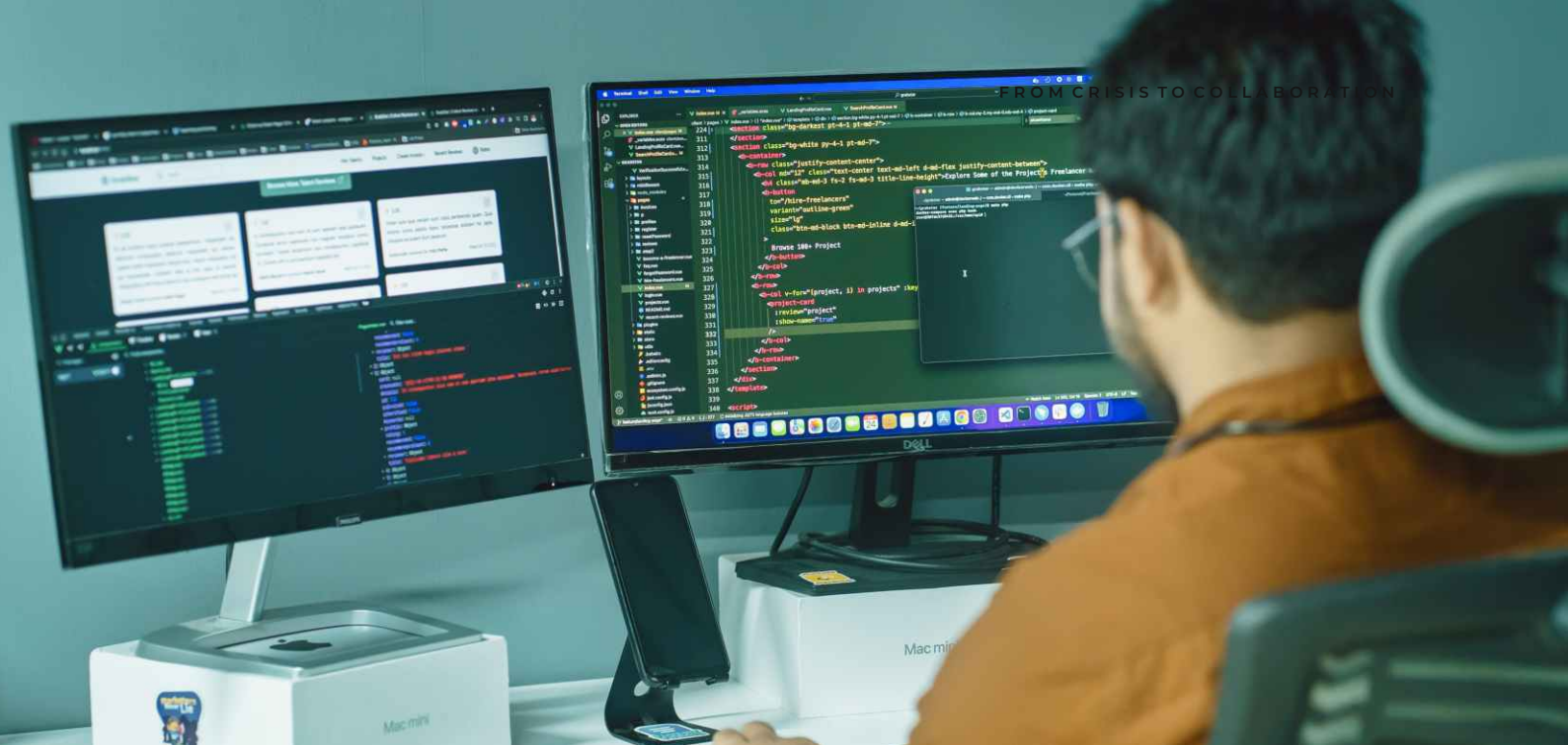
## 5.1 India District Full Stack Model: Human-Centered Design to Empower Districts

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This transformative initiative harnesses the principles of Human-Centered Design to empower individuals with lived experiences and develop innovative solutions. Guided by a robust institutional anchor at the district level, the initiative combines knowledge management and funding components to support the design and implementation of effective interventions. Leveraging the expertise of

established players in the healthcare sector, the objective is to cultivate a resilient ecosystem capable of withstanding shocks from disasters and addressing prevailing sectoral challenges. By prioritizing user-centric approaches, this initiative ensures the development of sustainable solutions that cater to the diverse needs of communities and foster long-term resilience.





## Learning sites foster innovation, secretariat facilitates collaboration, pooled fund supports resources

### This initiative has three components :

**a. The first component** is a **learning layer** that entails the establishment of a network of learning sites across the country in collaboration with a public health NGO and state/district governments. Districts are chosen as administrative units to identify local grassroots needs. Employing Human-Centered Design principles, stakeholders adopt a systems approach to address gaps and develop solutions encompassing people, processes, partnerships, and technology. These learning sites serve as local hubs, fostering quick innovation and implementation. By leveraging the expertise of existing healthcare players, the initiative aims to create a resilient ecosystem to tackle disasters and sectoral challenges.

**b. The second component** involves setting up a **secretariat** comprising a multidisciplinary team and representatives from local resources. This

secretariat serves as an interface and facilitator between the learning sites and the development, innovation, and policy ecosystem.

**c. The third component** involves the establishment of a **pooled innovation fund**, serving as a funding mechanism to address the needs of the learning layer. The main objective is to support and promote innovators and solution providers by connecting them to real-time problems and facilitating the contextualization of solutions. The fund will enable the fulfillment of solution-market fit requirements and provide various options such as grants, debt, equity, and access to an innovation ecosystem.

It is recommended that the initiative be piloted across 15-20 districts following varied typologies and offering a proof of concept in the complex Indian Public Health System, and hence may require an initial allocation of 45-50 Million USD led by donors like CRF, followed by a pooled innovation fund of 200-250 million mobilized by partnerships with other donors.

## Ground-up innovation ecosystem empowers communities to respond to local needs

The initiative's theory of change centers around fostering and nurturing a local innovation ecosystem that empowers communities to access resources and enable them to identify, prioritize and respond to their needs. The objective is to ensure that solutions emerge iteratively and in close proximity to community needs, taking a ground-up and incremental approach while leveraging necessary convergence with already

existing initiatives. By avoiding a siloed approach, the aim is to contextualize solutions and encourage convergence. Additionally, the initiative emphasizes documenting and replicating best practices that emerged in healthcare systems during the COVID-19 pandemic, such as data sharing between departments and decentralized decision-making. These practices aim to create a robust and resilient healthcare system at the district level. By embracing these principles, the initiative aims to create a robust and resilient healthcare system that is adaptable and responsive to local needs at district level.



## Partners collaborate for funding, capacity building, and scalable solutions in planning phase

The initiative is in its initial planning phase, with identified partners taking on important roles in different work packages. IN COVID SUPPORT FZE LLC (Cryptorelief) will serve as one of the funding partner, collaborating with non-profit organizations on problem identification, capacity building, solution design, piloting, and solution

prioritization. Start-up incubators will contribute their expertise in innovation, prototyping, and addressing scalability needs. Furthermore, government entities and stakeholders will be engaged to facilitate convergence, replication, and scaling efforts..





### **Meticulous district selection for piloting with NGO partners from collectives**

To begin the initiative, a meticulous selection process will be conducted to identify suitable districts for piloting. Around 10-15 districts from different regions will be chosen, and NGO partners from these districts will be selected. These NGO partners would be sourced from the collectives and networks that had

previously received support from CRF during the Covid-19 relief endeavors.

The initiative has developed comprehensive operational guidelines and tentative action plans, including budget allocations, to facilitate its implementation. These guidelines and plans provide a structured framework for executing project activities with effectiveness and efficiency.

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## 5.2 Institute for Biomedical Research and Innovation: Driving Research and Technology

In the wake of the second wave of Covid-19, discussions have revolved around an additional initiative aimed at establishing a conducive national ecosystem. This initiative focuses on rigorous research, the utilization of technology, and fostering cross-sector collaborations. While relief activities gained traction and garnered support, the need for comprehensive sequencing and surveillance of Covid-19 variants became apparent.

Acknowledging this, CRF made a significant funding contribution, accounting for more than 10% of the overall sequencing efforts in the country, with a clear understanding of the importance of strengthening this area. Additionally, CRF provided funding for various research and capacity building initiatives at esteemed institutions like IISC, IIT Chennai, and Lok Nayak Hospital in Delhi.





## IBRI drives interdisciplinary research, industry collaboration, and affordable healthcare solutions

The IBRI intends to promote cutting-edge advanced research and innovation in biomedical research, which will be interdisciplinary and nurture collaboration between academia and the industry. It will promote community health, current and future, concerning preparedness, improved healthcare, and disease treatment/management. To achieve these goals, the following actions are proposed under this initiative:

- Establish a **state-of-the-art physical facility** for biomedical research in India, providing a conducive environment for Indian scientists to conduct cutting-edge research. The facility will feature core infrastructure,

including advanced laboratories, biorepositories, animal research facilities, an incubation center, education center, translational and medical research center, as well as satellite centers.

- Facilitate **translational research** in the biomedical and healthcare sector by encouraging medical, academic, and industry partnerships across India.
- Establish a **specialized network of technology and business incubators** to provide support and resources to Indian researchers in developing innovative, accessible, practical, and affordable healthcare solution

An approximate budget of 150-200 million USD will be required to implement the initiative, which can be led by CRF in partnership with other donors.

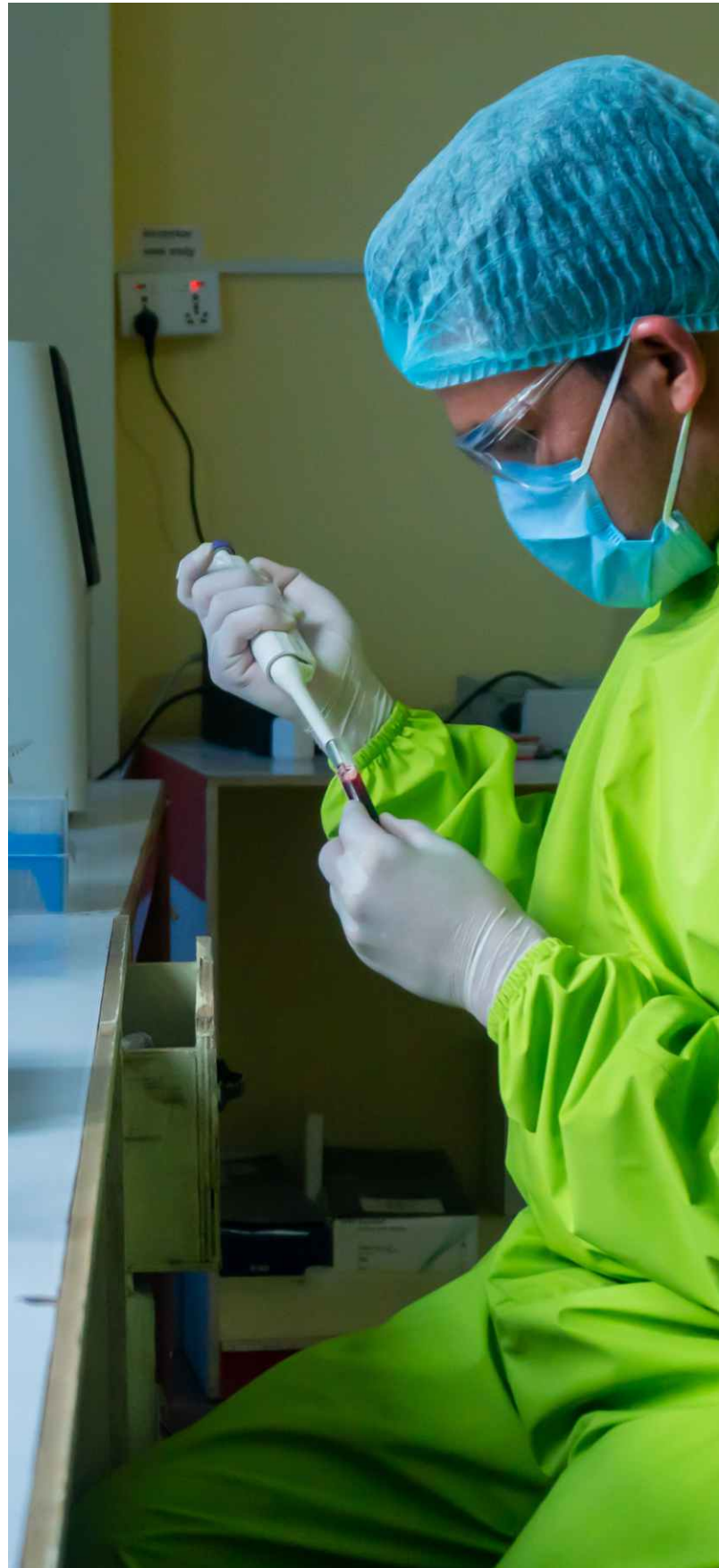
## IBRI employs a phased approach, fostering collaboration and promoting research partnerships

The overall activity under Institute for Biomedical Research and Innovation (IBRI)<sup>1</sup> has been designed in a phased manner, considering the capital-intensive nature of the project and the regulatory requirements at different stages. To prepare for these activities, a virtual network of alliances and partnerships is proposed as a preliminary step to establish legitimacy and credibility. This platform will foster dialogue and collaboration among stakeholders from various disciplines through webinars, short-term training programs, conferences, and support for innovative solutions with higher risk.

It is important to note that CRF does not intend to claim intellectual property or ownership in such ventures. A key aspect of the virtual network will involve working alongside government bodies at the local, state, and central levels, as well as policymakers, to understand community needs and contribute to building safer and stronger communities. In the future, the IBRI aims to promote collaborative research across multiple institutions by issuing calls for proposals and fostering research partnerships.

---

*1. In the original proposal, it was proposed to have a Virology Research Centre and a Health Innovation Initiative. The name of the Virology Research Centre has been modified into IBRI to give a holistic perspective. And the Innovation initiative will be hosted within the IBRI and District Full Stack Fund.*

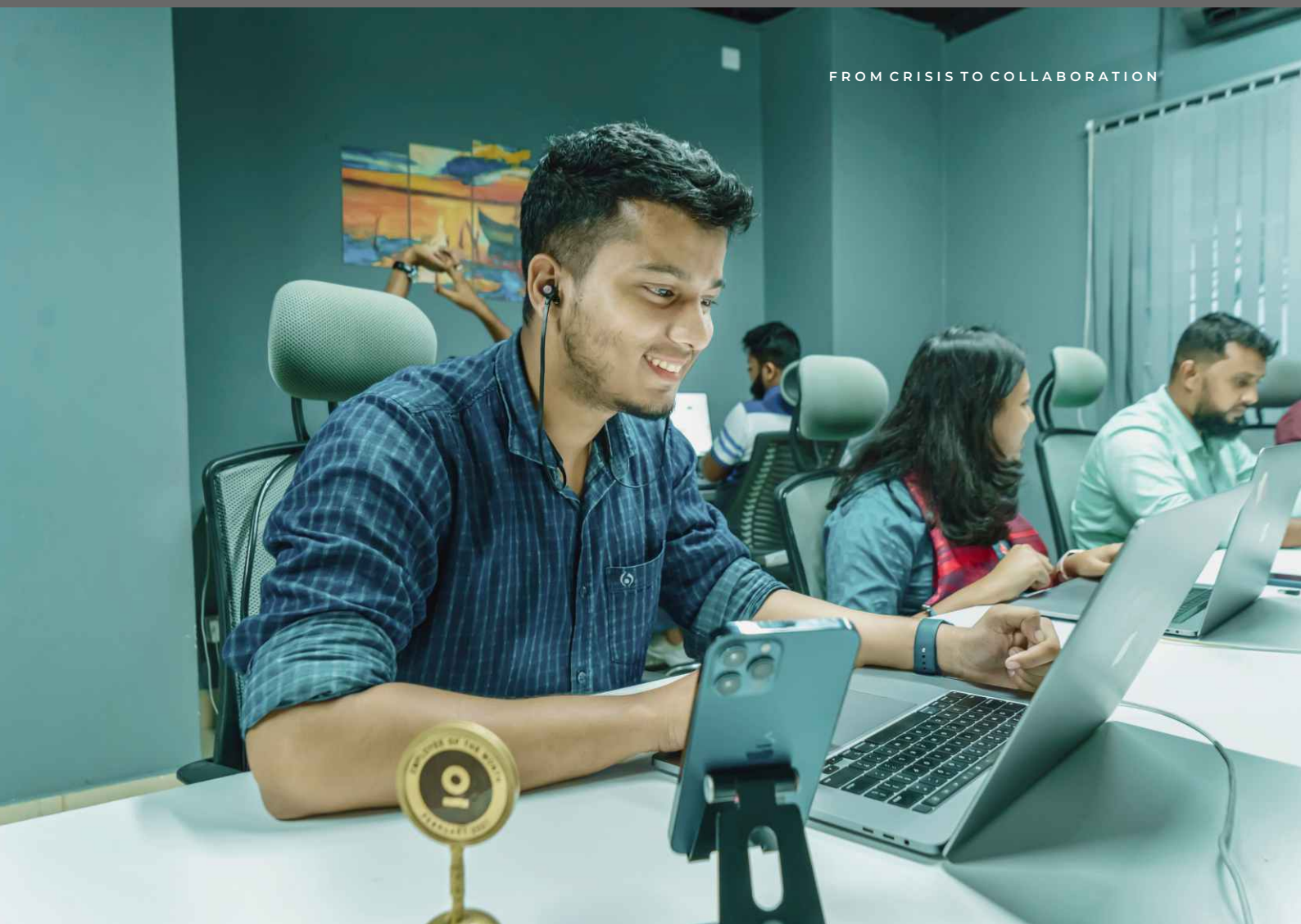


## 5.3 Recommendations: Continuous Development for Sustainable Innovations

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The India District Full Stack Model has the potential to unlock system-level solutions by adopting a bottom-up approach. The IBRI plays a crucial role in bridging the gap between research and innovation with real-world problems. Considering the long-term nature and extensive stakeholder involvement of these interventions, the following inputs are recommended:





- **BVT Anchored Implementation for Secretariat Management:** Set up an Indian Secretariat anchored by BVT in India that shall manage implementation of initiatives such as India District Stack Fund and IBRI.
- **Engage Philanthropy to Drive Innovation, Attract Partners:** There is a need to foster dialogue on the initiatives and attract additional partners, particularly philanthropic organizations, to drive the implementation of innovative practices. For example, the District Full Stack model could be implemented in select Aspirational Districts where concerted efforts are already underway with the support of prominent organisations.
- **Develop Compendium of Nationwide Healthcare Service Delivery Models:** Identify and document best practices implemented by Social Impact organizations nationwide, creating a compendium of successful community-based large-scale health innovation and implementation models. These models can then be studied and considered for adoption by local partners, facilitating knowledge sharing and promoting effective practices across different regions.
- **IBRI Partnership Document for Sustainable Partnerships:** To create a partnership document for IBRI by identifying and incorporating practices utilized by similar networks to establish and sustain partnership models.

- **Agile Project Management using SCRUM and OKR Framework:** Discuss and determine time-bound milestones for each initiative, utilizing the Objectives and Key Results (OKRs) framework for goal setting and the Scrum Model for Project Management to ensure agility. This approach is crucial given the project's complexity, involvement of multiple stakeholders, and longer duration.

These strategic inputs will contribute to the long-term success and sustainability of these interventions, ensuring impactful outcomes in the healthcare sector.

In conclusion, CRF's forward-looking strategies, encompassing blockchain adoption, the India District Full Stack Model, and the Institute for Biomedical Research and Innovation, demonstrate a commitment to innovation, research, and sustainable partnerships, setting the stage for impactful and transformative advancements in healthcare.



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Established in 2017 and incubated at IIM Bangalore NSRCEL, NuSocia is working with the mission to enable the Social ecosystem with impact that is evident. The team comprise of consultants, researchers, social sector professionals and data scientists with a common passion to generate ideas that matter for the people and the planet. It work with Corporates, Governments, Foundations, and Non-profits to help them maximize, manage, measure, and communicate their social impact.

Clients select us for our expertise to bring the best of the global framework and marry it with the ability to connect at the grassroots level and thus creating and delivering practical solutions to the unique client requirements. As a knowledge-driven organization, NuSocia focus on research and collaboration to design innovative solutions and work across the entire social impact lifecycle offering services in CSR strategy, needs assessment, program design, implementation, monitoring & evaluation, impact assessments, communication, and more.

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## FROM CRISIS TO COLLABORATION

Decoding India's Healthcare Innovations in Response to COVID-19