

Local Recovery and Preparedness for the Pandemic



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ABOUT THIS ISSUE

The COVID-19 pandemic wreaked immense havoc on human health, livelihoods, economies and societies across the globe. As the pandemic steadily wanes, the world has started to stagger back towards normalcy. However, the long-term repercussions of the pandemic on the economy and society need to be addressed for a holistic and sustainable recovery. One area of inquiry that has not received adequate research and institutional attention is 'local level recovery and preparedness'. As country after country has devised and implemented strategies for national level recovery against the pandemic, it is also time to focus on local level recovery and preparedness.

This issue of *Southasiadisasters.net* is titled 'Local Recovery and Preparedness for the Pandemic'. This issue brings together policy experts, researchers and practitioners from diverse fields to deliberate on the trajectory of local level recovery and preparedness aspects. The focus is on highlighting the needs and the best practices on local level recovery and preparedness from the global south. The overall objective of this issue is to facilitate knowledge and skills on recovery aspects associated with COVID-19 pandemic at the local level and amplify the local voices on their lived experiences during the pandemic. This issue is also an attempt to co-create transformative pathways towards pandemic recovery and preparedness at the local level. ■

- Kshitij Gupta, AIDMI

INTRODUCTION

Local Recovery and Preparedness for the Pandemic: Agenda from Affected Population

By *Mihir R. Bhatt, All India Disaster Mitigation Institute, India*

As country after country moves ahead to plan local recovery and pandemic preparedness it is time to **locate local recovery at the centre of national and global efforts**. What will such local recovery look like?

AIDMI asked its community leaders of the pandemic affected populations among various sectors in India. What came out is presented below.

First, such **local recovery will generate local wealth in health and medicare and not cost a huge amount to any family**. This means that the money that changes hands must flow at local level and in lateral direction from one family to another and from one social business or clinic to another. Money should not flow bottom up only to corporate health or public health corporations. In the end health care money should be spread in the system and not be concentrated in one or two locations in the system. Local recovery must create and promote local health facility, skills, and more. The low income urban heatwave affected residents of ten locations in the city of Ahmedabad pointed this agenda out for local recovery.

Second, such local recovery will fill in income and health asset gaps. That is any income or asset must not be at the cost of health and any **health care must not cost beyond the existing income of the affected individual**. Families should be able to afford health and all health measures must be affordable. The pandemic affected pastoralists of the desert of Kutch at a roundtable in Naliya come up with this agenda in their discussion.

Third, local recovery must be a bottom up process. This means that **income and health protection of the family of migrants, workers, women, minorities and others should recover first and fast**. The

migrants, homebased workers, the vendors, the water harvesters, all must be invited to shape recovery bottom up. This agenda came up from the pandemic affected members of four local women's social enterprises in Gujarat.

Fourth, local recovery must be co-created. All **decisions related to health recovery must be in joint conversation with those whose health is being discussed**, if the health measures focus on children's vaccination children must be in discussion and decision making. The power of public and joint ideas is tremendous in accelerating the change and its impact. This co-creative agenda came up from the two roundtables in Dhaka and Kolkata with the civil society members working across boundaries in the climate change affected Sundarbans delta in India and Bangladesh.

Five, local recovery must be a transformative process. Local recovery not only must **make up loss of health and damage to health, build better health, but in fact transform medicare centered health to much larger health and wellbeing landscape**. The pandemic affected population has again and again requested this transformation when discussing with AIDMI what can be done differently. The affected people are in local organisations or local authorities or local medical or health institutions.

The above five agenda items define sustainable and inclusive local recovery from the pandemic in the eyes of the pandemic affected citizens. The agenda must be located in the centre of any national or global recovery of pandemic preparedness. ■

Key Health Agenda for the Pandemic Preparedness

By *Dr. Bhavesh Modi*, Professor & Head, and *Dr. Archi Dave*, Senior Resident,
Department of Community & Family Medicine, All India Institute of Medical Sciences, Rajkot, Gujarat, India

The COVID-19 pandemic isn't the first to hit the human civilization. Throughout history, there have been numerous pandemics that claimed the lives of thousands even millions of people in the past including Antonine Plague (165 AD-180 AD, death 5-10 million), The Black Death (1347-1352, death 75-200 million), Small Pox Pandemic (1870-1874, death 500,000), Cholera (1871-1824, death 1 million+), Russian Flu (1889-1890, death 1 million), Spanish Flu (1918-1919, death 17-100 million), H3N2 Pandemic (1968, death 1-4 million), HIV/AIDS (1981, death 40.1 million (as of 2021)) and recently COVID Pandemic started in 2019.

COVID-19, a disease caused by the virus SARS-Cov-2, was declared a pandemic by the World Health Organization created an unprecedented emergency worldwide. Globally, more than 60 million confirmed cases of COVID-19, including 60 lakhs deaths, reported to WHO (till September 2022). *The COVID-19 pandemic is a stark reminder that the costs of effective preparedness are dwarfed by the costs of a failure to prepare.* The world now has an opportunity to build on progress made in 2020-21 and move towards a sustainable future of emergency preparedness and readiness built on a foundation of strong and resilient health systems¹.

Any pandemic and other global crises can be understood in a novel

model of four overlapping progressive stages: 1) escalation 2) emergency 3) recovery and 4) resolution. Escalation stage is predominantly characterized by an increasing realization that an external threat is approaching, and by the need for rapid preparations. Emergency stage focuses on leadership at the onset of a threat, when it is direct and local. Recovery stage is highly capricious as there may be widespread staff and community fatigue or burnout, along with a prolonged looming potential threat of reverting to an emergency state at any point in reaction to a resurgence. Resolution stage involves addressing the repercussions of the crisis and subsequently setting priorities, ideally alongside a collective creative discussion of post-crisis opportunities and strategies to achieve a new (and hopefully) better reality².

Pandemic preparedness starts at country level and comprises many elements. First and foremost, it requires strong and resilient health systems, in particular primary health care (PHC), to facilitate detection of disease outbreaks, provide essential care, and support deployment of supplies and other medical countermeasures. Second, it requires surveillance systems and laboratory capacity to detect both human and zoonotic disease outbreaks. Third, mechanisms are needed for coordination across sectors for prevention and preparedness.

Fourth, preparedness requires legal frameworks and regulatory instruments to support both outbreak prevention and the deployment of countermeasures. Fifth, there is a need for well-functioning supply-chains as well as adequate stockpiles of essential goods and equipment³.

Preparedness at National Level

Countries and communities are often exposed to multiple hazards at the same time or immediately after one another as a consequence, which means systems must be sufficiently prepared to be able to respond in a timely and efficient way using the existing capacities in place. Countries everywhere are always at risk of experiencing emergencies of one kind or another. In some instances, small-scale emergencies may be of short duration and self-limiting; in others, they may have a much longer-term, more protracted profile and go on to have far-reaching and deep implications for health care delivery and health systems and for the broader socioeconomic-political systems. Any such public health emergency and disaster situation warrants immediate actions by all systems, sectors and stakeholders, with a defined leadership. When emergencies strike, timely, coordinated, technically sound and evidence-based actions are needed from all stakeholders, including communities, to reduce the impacts of these hazardous events. All

¹ World Health Organization, COVID-19, strategic preparedness and response plan 1st February 2021 to 31st January 2022.

² Guidance for Health Care Leaders During the Recovery Stage of the COVID-19 Pandemic: A Consensus Statement | Global Health | JAMA Network Open | JAMA Network.

³ Preparedness for the next pandemic: what will it take?; available at: [Preparing for the next pandemic: What will it take? \(worldbank.org\)](https://www.worldbank.org/en/news/press-release/2021/11/15/preparing-for-the-next-pandemic-what-will-it-take); published on November 15, 2021.

countries have health policies and plans that reflect their health and disease priorities and which are enacted by ministries of health. Countries are also likely to have an all-hazards National Emergency and Disaster Risk Management strategy /policy and other relevant strategies and policies at the highest level.⁴

Preparedness at State and District Level

For easy conduction of action, distribution of responsibilities is the crucial part in any domain including pandemic. The steps and strategy should be adopted by the state government to deal with any crisis calibrating the initial preparedness to the ongoing activities. Control room should be established at state/district level to cover major domains - prevention and control of disease, immediate administrative decision, surveillance, treatment, availability of drugs and resources, availability of expert and paramedical staff, awareness, training, research & improvement of infrastructure at hospitals. Epidemic cell should be developed at state/district level to - monitor the current epidemic situation, provide technical, financial, material and manpower, investigations and management, prevention of transmission and inter-departmental coordination activities, regular meeting to review and provide feedback. Control rooms should be established at Districts, Regional and State level for prompt notification and rapid response in wake of outbreak.

Preparedness at Local Level

Primary Health Care (PHC) at the local level forms an integral part of the country's health system of which it is the nucleus and of the overall social and economic development of the community. According to the

WHO, "*PHC is a whole-of-society approach to health that aims at ensuring the highest possible level of health and well-being and their equitable distribution by focusing on people's needs and as early as possible along the continuum from health promotion and disease prevention to treatment, rehabilitation and palliative care, and as close as feasible to people's everyday environment.*"⁵ Key health agenda for the pandemic preparedness at local level can be dealt by following four principles of primary health care:

1. **Equitable distribution** of healthcare means 'universal access to health services irrespective of the ability to pay by investing more resources in areas where it is needed more. Higher priority needs to be given to high-risk groups like women, children, under-privileged segments and underserved areas. For equitable distribution in pandemic preparedness there should be formation of rapid response team at various levels for the understanding of origin, effects and steps for control and prevention, planning and implementation of field visit for epidemiological investigation. For decentralised response, district task force should be entrusted with the responsibility to regularly review the demography, number of the cases and availability of the manpower and undertake necessary activities to identify those at highest risk, to provide continuum of care to them and eliminate factors contributing to ill health.

2. **Community participation** is the process by which individuals and families assume responsibility for their own health and of the community they live in. The best example for recent pandemic is

'Corona worrier' team of local members of community for awareness in residential area along with care of old age person, person with any comorbidity. Another example is *small community kitchens* have an impressive grassroots impact on improving the nutrition of high-risk communities and finding ways to deliver food while navigating Covid-19 precautions. In the face of pandemics, community kitchens provide a safety net for communities at high risk of contracting illness.

3. **Intersectoral coordination:** Primary health care is concerned with health promotion, disease prevention and then management of disease if it occurs. For achieving this, input from sectors other than health is of paramount importance. Primary health care requires support of other sectors like water supply, rural development, agriculture, home, etc. For effective control of spread of corona virus disease one of the most effective solutions in early stage was lockdown, that required active participation from police team, home guard, civil defence, GRD, Traffic brigade doing day night duty. Mobile medical vans were deployed in the field for testing across the state, co-ordination with police for contact tracing and for ensuring the quarantine. Involvement of private sector through Indian Medical Association & AYUSH department was also very vital for the pandemic preparedness. Awareness can also be improved by the involvement of religious organization/ local priest who is trusted by locals and having impact on community.

⁴ WHO guidance on preparing for national response to health emergencies and disasters. Geneva: World Health Organization; 2021. Licence: CC BY-NC-SA 3.0 IGO.

⁵ World Health Organizations, Primary Health Care; available at: [Primary health care \(who.int\)](https://www.who.int).

4. **Appropriate technology** means any technology that makes the most economical use of a country's natural resources and its relative proportion, of capital, labour and skills-and that contributes to national and social goals. Where machinery and/or equipment are involved, it should be simple to run and maintain/ repair. It should be locally produced as far as possible. An innovative technique adopted by the police was Hydrogen Balloon Based Surveillance. This technology-based surveillance freed up the human resources to be utilized in the different activities in the state, Tele mentoring, Teleconsultation and telemedicine, [eSanjeevani OPD, dedicated smart phone applications](#) (ITIHAS, Aarogyasetu).

According to a new World Bank report, well-designed PHC has the potential to help flatten the curve during a health crisis like COVID-19 pandemic by providing measures such as surveillance, testing and contract tracing, community outreach and vaccine coverage, and in keeping hospitals from overflowing with critically ill patients.⁶

PHC needs to be reimaged by identifying four high level structural shifts:

- From low-quality to high-quality services delivered by multi-disciplinary teams to strengthen the range and quality of care.
- From fragmented care to person-centered integration, in which cohesive, PHC teams coordinate care around patients' needs.
- From inequity to fairness and accountability, in which equitable, efficient PHC delivery fosters and

rewards accountability for health outcomes.

- From fragility to resilience, in which PHC teams conduct public-health surveillance and outreach, and health sector planning and resource allocation include financial and human-resource surge capacity.

Better primary healthcare will help us protect against future pandemics. UNICEF has recommended some pivotal areas needed to be invested for building better health systems, these are some of the areas to focus on⁷.

First and foremost is to Recruit, train and prioritize healthcare workers as they are at the heart of any strong healthcare system. Throughout the COVID-19 pandemic, frontline workers, which includes community health workers, have selflessly risen to the challenge. Whether it's been caring for the sick, making sure that vaccines reach the most vulnerable, testing and reporting cases or keeping routine healthcare services going, their efforts have been immense. To try and protect against future pandemics, healthcare workers must be prioritized more than ever. That means providing them with the necessary training, making sure they're first in line for vaccines so they're protected, and financially and emotionally supporting them. That includes building the confidence of healthcare workers, ensuring their thoughts and concerns are understood and working with them to address those issues.

Second is to Establish effective surveillance and response systems. New and sometimes more

transmissible variants have regularly circulated, and they've often spread quickly. With any virus that's constantly moving and changing, it's important to have effective testing and reporting mechanisms in place to monitor them. That means that if an outbreak occurs or a new variant emerges, it can be flagged quickly to a central health authority. By raising the alarm quickly, effective measures can be quickly put in place to help limit virus transmission. This kind of surveillance is best when it is done at a community level.

Third is to Build confidence in health services through community health. When it comes to giving people the services, they need to stay healthy and thrive, trust is crucial. Building confidence in healthcare workers, health institutions and national health agencies is therefore key, as that is where the critical information comes from. By building trust and making sure the guidance from these sources is evidence-based and respected, we can help prevent future pandemics. On top of trust, it is important to communicate effectively with the public about the healthcare services that are available to them. People need to know that services are available, as well as information like where to go to get them and when health workers will be providing them. That is particularly crucial in rural communities where temporary clinics often provide these services. Strengthen logistics and supply is very vital. Moving forward, greater investment in healthcare infrastructure will help to ensure communities can receive and safely manage the supplies they need to protect against future outbreaks. ■

⁶ At a Glance: Walking the talk - Reimagining Primary Health Care After COVID-19: At a Glance: Walking the Talk - Reimagining Primary Health Care After COVID-19 (English). Washington, D.C.: World Bank Group. Available at; <http://documents.worldbank.org/curated/en/446861624530245206/At-a-Glance-Walking-The-Talk-Reimagining-Primary-Health-Care-After-COVID-19>.

⁷ How to improve primary healthcare to prepare for future pandemics by UNICEF; available at; [How to improve primary healthcare to prepare for future pandemics | Gavi, the Vaccine Alliance](#)

The Pandemic Preparedness: Role of Climate Change Department

By Shwetal Shah, Technical Advisor, Climate Change Department, Government of Gujarat, India

Climate Change Department of Government of Gujarat is working towards climate change mitigation and adaptation actions across different sectors of the state. During the pandemic of COVID-19, this Department continued Climate Actions through on-line and offline mode, whatever were possible due to the emergency situation created as a result of the pandemic.

The installation of Solar Rooftop on Residential Building is one of the major scheme of the Department and it was continued to implemented this scheme even in the time of the pandemic while taking care of the people involved on the field work. As result Gujarat implemented more solar rooftop installation in the year 2020-21 and 2021-22 even more than what it has done during the previous year of 2019-20. As of September 2022, Gujarat has installed more than 4,00,000 Solar rooftop installations with cumulative installed capacity of 2000 megawatt. Gujarat ranks first in Solar rooftop installation among all the states of India.

The Climate Change Department organised various online discussions sessions during the pandemic. It was started with the World Environment Day, which is celebrated on 5th June every year since 1974 to engage governments, businesses, celebrities and citizens to focus their efforts on pressing environmental issues. The theme of the World Environment Day 2020 was biodiversity – a concern that is both urgent and existential. Recent events of forest fires in Brazil, the United States and Australia, locust infestations across

East Africa and India, and the global pandemic have demonstrated the interdependence of humans and the webs of life in which we exist.

The COVID-19 pandemic has drastically changed the way we work and communicate. There are several new methods of communication being practiced like webinars, virtual meetings, video conferences etc. The pandemic has resulted in extensive lockdowns, social distancing and remote working over the internet. While the world continues to battle the pandemic, it is imperative not to lose sight of the impacts of climate change. To this end, Climate Change Department, Government of Gujarat organized a series of eight online discussions from June 2020 to September 2020 focussing on subjects at the intersection of COVID-19 and climate change.

The ongoing COVID-19 pandemic and the economic shock have exacerbated the existing vulnerabilities in the human, environmental and health ecosystems. Economic shock of the COVID-19 pandemic might have resulted in a short-term decline in the GHG emissions, but we need better solutions that can have long-term impact in the fight against climate change. Scientific research can offer evidence-based strategies to these challenges. Between June 2020 and September 2020, Climate Change Department, Government of Gujarat organized a series of online discussions focusing on the intersections of Climate Change and COVID-19. A group of researchers, academics, communication experts,

and policy makers gathered over eight online sessions to discuss the interventions and solutions to tackle the dual crisis. The online discussions were spearheaded by the Climate Change Department, Government of Gujarat in partnership with Ministry of Environment, Forests and Climate Change, and with knowledge support from World Resources Institute India, and Institute for Climate Change Research, MS University, Vadodara.

Each online discussion identified two resource persons and a thematic area that identified the potential concepts that are captured in this communications report. The themes covered during the online discussions include: Climate policy and governance; Vulnerability assessment; Innovations in climate change adaptation and mitigation; Climate change and water resource management; Climate change communications in Gujarat through Community Science Centres; Climate adaptation of vulnerable communities; Renewable energy transitions in Gujarat; and Importance of climate change in education systems.

These sessions are also made available in the YouTube channel of the Climate Change Department, Government of Gujarat and it was one of the only initiative during pandemic by any State Government on Climate Change discussion with a special reference to COVID-19 in India during this critical time.

Also the State Action Plan on Climate Change was revised in alignment with India's Nationally Determined contribution to the Paris Agreement and the UN Sustainable Development Goals (SDGs) during this period with the help of IIT Gandhinagar and IIM Ahmedabad.

Also a report is developed on observations of different environmental parameters specifically during the lockdown time and learning based on it for the long run. Thus it may be concluded that though the pandemic has been a bitter experience for mankind, but

particularly for Climate Actions at sub-national level it gave us a good opportunity to make use of this time as learning opportunity and furthermore to be better equipped to face new challenges in the time to come. ■

COTTON FARMERS PREPAREDNESS

Cotton Farmers: Recovery from the Pandemic and Adapting Sustainable Practices

By Pallavi Rathod, AIDMI, India

India is the world's largest cotton producer and the second largest cotton exporting country after China. It has the largest area under cotton cultivation in the world, about 11 million hectares. Cotton sustains the livelihood of an estimated 5.8 million farmers, with another 40-50 million people engaged in related activities such as cotton processing and trade.⁸

The COVID-19 pandemic emerged as an unprecedented challenge for all of humanity. The substantial loss of life witnessed after the outbreak of the pandemic is only superseded by the distress brought about by it to the lives of people across the globe. The pandemic and its varying degrees of concomitant lockdowns brought all economic activity to a grinding halt causing a slowdown in all sectors of the global economy. The agriculture sector too was not unaffected by the wrath of the pandemic. This is especially true for small and marginal farmers in India. In India more than 80% of the agriculture sector comprises of small and marginal farmers (Ministry of Agriculture and Farmers Welfare,



Bio-fertilizers making drum.

2015). Agriculture and its allied sectors are the source of livelihood of around 54.6% of the population (Economic Survey 2019-20) and its contribution was around 16.5% of the GDP. Furthermore, small-holder farmers contribute to both diversification and food security significantly in terms of production of high value crops and commodities (Dev, 2014).

This is also true for cotton cultivation in India during the pandemic. India being the world's largest producer of

cotton experienced a range of disruptions in the entire cotton value chain during the pandemic. Due to the non-operational gins and lack of mobility in the lockdown, the farmers who were able to harvest their cotton crop had to store it at home. This put them in a highly precarious situation as the stored cotton was vulnerable to being spoiled.

Cotton farming is marked by a high use of chemical inputs like pesticides and fertilizers. These chemical inputs

⁸ Sustainable cotton farming brings better lives for farmers and their families, International Labour Organization https://www.ilo.org/newdelhi/info/public/fs/WCMS_814029/lang-en/index.htm, August 2, 2021.



The visual vocabulary exercise with women farmers that focus on recovery from the pandemic.

can severely impact the health of the soil and lead to other environment degradation problems along with adversely impacting the quality of the cotton. Thus, there is a need to wean the farmers away from chemical inputs and bring by promoting the use of bio-rational pesticides and fertilizers. The All India Disaster Mitigation Institute (AIDMI) has been fortunate to assess the impact of one such initiative

called 'Kapaskam' wherein women cotton farmers have been given capacity building and other kinds of support to adopt sustainable farming practices and recovery from the pandemic.

In particular, AIDMI has been involved in an appreciative inquiry of this initiative that is being carried out in three states, viz. Gujarat, Maharashtra and Madhya Pradesh.

After AIDMI's Appreciative Inquiry visit of Gujarat, Madhya Pradesh Maharashtra, it noticed that after starting *Kapaskam* project the farmers started adapting sustainable practices with COVID appropriate behaviour. They do not use harmful pesticide. They can identify more dangerous and genteel chemical pesticide by colour classification. Now they use minimum quantity of chemical pesticide and fertilizers as



Using pheromone trap in farm.



Application of Alternate irrigation method in Kutch district.

per soil testing report. The women farmers are also making use of various types of bio-pesticides and fertilizers namely *Jeevamruth*, Neem oil, Neem water, *Panchparni*, *Dashparni*, *Amrutpani*, *Vermicompost*, EM solution etc. and use home products like butter milk, molasses, cow dung, neem leaves etc. They also use pheromone trap, yellow sticky trap and light trap and making bird stand for pest control. They also do inter crop as sustainable practices. They also grow green grams, maize, etc. along with cotton maize etc. as inter crop. If they have loss in cotton crop, they can earn from inter crop.

As a pest management technique, they use Economic Threshold Limit (ETL), and according to it they identify and count the pest quantity, then according to pest quantity in a cotton plant they used bio-pesticides or chemical pesticides as per needs. They use bio pesticide if ETL level is low and use chemical pesticide for ETL level is high. Some sustainable and advanced irrigation techniques like alternate irrigation, drip

irrigation and sprinkle irrigation are also practised by the farmers. Most of the farmers are using alternate irrigation, because it takes relatively less water and also less costly compared to other techniques. Most farmers cannot use drip irrigation and sprinkle irrigation due to more costly.

The interconnectedness of the global supply chains of cotton also led to a lot uncertainty about the procurement of the seeds and other inputs needed for cotton farming. The lack of transportation, absence of inputs and overall uncertainty around the cotton prices led to mounting losses for many small and marginal farmers of this commodity. Apart from the impact on their livelihood, small and marginal cotton farmers also suffered from other impacts of COVID-19 pandemic on their lives. Aspects such as health, family well-being, mobility, mental health, children's education, food security and nutrition were all affected by the pandemic. An assessment was

conducted with 150 farmer families (See chart 1 and chart 2).

To address the recovery and preparedness challenges of small holder women cotton farmers, the All India Disaster Mitigation Institute (AIDMI) decided to conduct a series of assessments titled 'Recovery and Preparedness from the Pandemic' with RUDI's *Kapaskam* field executives in the states of Gujarat, Maharashtra and Madhya Pradesh in September-October 2022. This results brief highlights the key findings from that assessment.

After these actions, they are aware about sustainable practices household level safety measures against COVID-19; and possible pandemic recovery and preparedness steps in farming. Their yield increased than before and reduced input cost because now they mostly use homemade bio-pesticide and fertilizers and they use chemical fertilizers and pesticides if needed.

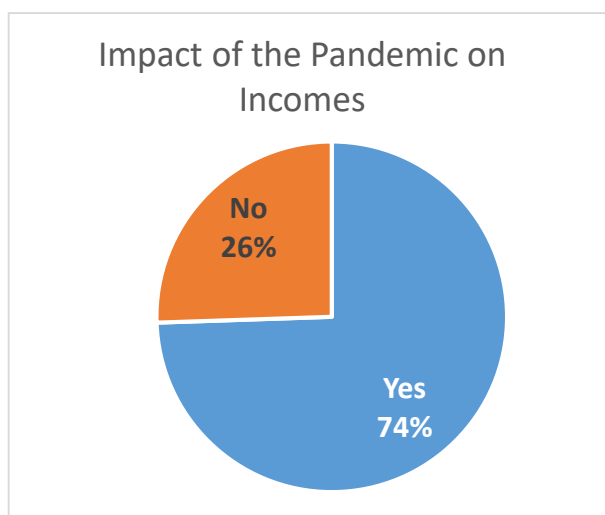


Chart 1. It was reported by 74% of the farmers that the pandemic adversely impacted their income while only 26% reported that the pandemic did not affect their incomes.

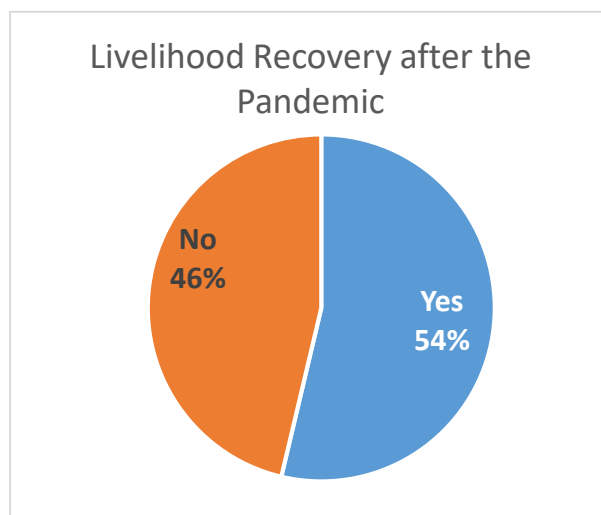


Chart 2. The farmers were asked whether the disrupted livelihoods have regained normalcy in their families. 54% said yes, while 46% responded with a no.

Education and Pandemic Preparedness

By *Dr. Rajal Patel*, Research Associate, Environmental Parameters, Gujarat Ecological Education & Research (GEER) Foundation, Gandhinagar, Gujarat, India

The number of natural disasters, pandemics and man-made calamities has been rising in every region of the world. Acquiring knowledge and putting it to use in the actual world is seen as the only reliable method for avoiding the effects of such hazards or mitigating their severity in our day and age, owing to the rapid growth of technology. Acquiring knowledge and becoming proficient in its applications is widely regarded as the most effective method for preventing emergencies and disasters or reducing the negative effects they have. Disaster preparedness consists of a set of measures undertaken in advance by governments, organizations, communities, or individuals to better respond and cope with the immediate aftermath of a disaster, whether it be human-induced or caused by natural hazards. A pandemic is an outbreak of a disease that occurs over a wide geographic area and affects an exceptionally high proportion of the population. A recent example of which is Covid-19. All such pandemics are occurred as result of closeness of human and wildlife habitat. Such diseases/viral infestations are called zoonosis. The figure below depicts some of the significant diseases/ pandemics occurred worldwide.

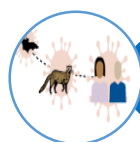
In order to be resilient to health emergencies and pandemics, crisis and risk management need to be institutionalized in education systems by having a crisis and risk management policy, a dedicated team of education staff that is tasked with developing and implementing such policies, and strong coordination mechanisms, including with the health sector in place at all levels of the system. Furthermore,

specific programmatic options can help prevent disease outbreaks and pandemics from affecting education communities and prepare them to respond to such events.

According to the current literature, prevention and preparedness actions are intended to mitigate the effects of health emergencies and pandemics and are often performed before to such events. Education stakeholders can establish a detailed procedure and action plans to avoid the undesirable effects of pandemics in order to contribute to prevention. Although it is inevitable that some communities and individuals will be vulnerable to natural and man-made hazards, individuals can play a part in mitigating these events by altering system resilience and disaster recovery capacity. Disaster education for the vulnerable attempts to educate individuals and groups with the knowledge, skills, and motivation to lessen their vulnerability to pandemics. Even educating vulnerable individual

results in beneficial acts for other individuals or groups. In recent decades, a number of studies have demonstrated that trained members of society can be prepared for disasters and respond effectively. Moreover, according to others, disaster education is a functional, operational, and cost-effective risk management technique.

A survey depicting Preparedness and Preventive Behaviors for a Pandemic Disaster Caused by COVID-19 in Serbia was carried out by researchers during 2020 (Cvetković et al., 2020). Coronaviruses are zoonotic and are a broad family of viruses that cause a range of illnesses, from the common cold to more severe conditions such as MERS and SARS. During the April 2020 tragedy, the survey was conducted using a questionnaire that was requested and subsequently collected online from 975 respondents. The questionnaire assessed the socioeconomic and demographic factors, knowledge,



2003: Severe acute respiratory syndrome (SARS) Natural reservoir: Horseshoe bats; Intermediate host: Masked civet cats



2012: Middle East respiratory syndrome (MERS); Natural reservoir: Probably bats; Intermediate host: Dromedary camels



2016: Swine acute diarrhoea syndrome (SADS); Natural reservoir: Probably bats; Host: Pigs



2019: Coronavirus disease 2019 (COVID-19); Natural reservoir: Probably bats; Intermediate host: Unknown

preparedness, risk perception, and preventative measures taken by individuals and communities in the Republic of Serbia in 2019 to prevent mortality and widespread transmission of a novel coronavirus disease. On the basis of the findings that there are significant differences in the public's perception of risks posed by communicable disease threats such as COVID-19, emergency management agencies should develop targeted strategies to improve community and national preparedness by promoting

behavioral change and enhancing risk management decision-making. The paper described a study that focuses on crucial initial phases in the process of local and national planning for a pandemic illness catastrophe. The authors encouraged emergency management agencies in the study area to use the differences in public perception of risk identified in our study to develop enhanced anti-pandemic disease preparedness measures through the promotion of behavioral changes through education that coincide with the adoption of

improved risk management decision-making procedures.

So, the research undertaken in numerous nations, such as Japan, suggested that, there is a direct correlation between education, an increased perception of danger, and students' risk avoidance tactics. At the end, it can be thought that, the gap between knowledge and action can be bridged by encouraging youngsters to consider the significance of preventative measures and preparedness via education. ■

TRIBUTE

Tribute Ms. Prema Gopalan

By *Mihir R. Bhatt, AIDMI, India*

Prema is not with us. And it is hard to accept even now after months.

Prema has been with AIDMI and its work for decades: mocking, guiding, supporting, and always in the end loving.

What can I say more? We focused on future of work for women in Gujarat earthquake recovery and finding innovations in the crisis of climate at community level after the tsunami of 2004. We shared the complexities of the culture of humanitarian donors and culture of humanitarian victims, and negotiated the two cultures at public events, in Geneva or Istanbul or Bali or Stockholm policy forums. In each negotiation, she reminded me to protect the rights of victim women to protest against injustice in humanitarian acts. And doing so she never agreed to top-down, structured, loud but benevolent humanitarian fix that was offered to us.

We worked on coming together of for-profit and not-for-profit humanitarian organisations in Bihar floods and tsunami villages in Tamil Nadu, in the interest of social and economic progress of poor and vulnerable women after the tsunami.

She was especially keen that women in Kutch desert recover as much as did the business corporations in Kutch after 2022 Gujarat earthquake.

On slums and low-income settlements related urban sector work we shared the idea that cities are not to “accommodate” women, but in fact women shape and cities and make them prosperous. Women are the cause of a city’s prosperity. And in this argument she took us from challenges of provision of water tap connections and toilet location to challenges of power of city planning and architects’ knowledge that make women marginal in our cities.

In her work Prema found “seeing” more important over texts and photos and numbers: “We must go see that women clean her toilet for the eighteen family members two time as day”, she insisted when we were meeting the Ford Foundation team from the USA in Mumbai.

Droughts made us mad and we could never convince the National Disaster Management Authority (NDMA) to set up a zero drought task force to at least explore the possibility of making India drought free. We made plans, strategies, and more to take this idea ahead but so



far without success. And now Prema is gone.

We planned to work on humanitarian cinema on our way to Sendai in Japan to reframe the infrastructure, aesthetics and audiences. This idea was never started and now never will.

On personal front Prema tried to live up to her name – Prema – and ended each discussion or related debate with kind glance and lingering humour. Prema was never dull!

How will I and AIDMI now continue these shared interests and positions in our upcoming humanitarian, disaster, or climate change work? Prema, we miss you so much already. ■

Role of Panchayats in Pandemic Preparedness

By *Chaynika Pasari, Programme Associate, UNNATI, Gujarat, India*

THE FIRST WAVE Initial Support by UNNATI

In the months of April and May, UNNATI responded to the distress calls coming from the communities it served. Field teams stayed at the scene to respond and coordinate with gram panchayats and administration; helping to generate awareness and quell misinformation; identify families in distress and in need of immediate assistance, and support them. 1780 households were supported with dry ration kits and 1278 household were provided drinking water. These were primarily families of widows, destitute, very old people, persons with disabilities, those with chronic and debilitating illnesses primarily of the Dalit and Tribal communities.

Collaborative Research on Impact of Covid-19 in Rural Areas

UNNATI was involved in a large-scale multi-round survey to assess the impact of COVID in rural areas initiated by a National Coalition of CSOs, Rapid Community Response to Covid-19 (RCRC). Among other things, the report offers information on the quality of delivery of public programmes. The survey results were highlighted in mainstream media and have informed the



decisions of government, donors, and other CSOs.

Addressing Challenges faced by Migrant Workers

Several consultations on welfare and social protection of migrant workers were undertaken. A policy note was subsequently developed and sent for review to the state government's labour department. Academics like Prof. Ravi Srivastava of the Institute of Human Development, Prof. Amitabh Kundu of Research and Information System, specialists like Umi Daniel of Aide-at-Action, and practitioners like Rajeev Khandelwal of Ajeevika Bureau and Sarat Das of the International Organization for Migration, have been extensively

consulted on the topic of migrant workers. The policy note was given to the Government of Gujarat to support the Migrant Support Resource Center.

Support for Livelihood

Large number of families went into distress selling and mortgaged their marginal farm land or ornaments to be buy agriculture inputs. 263 vulnerable farmers were supported with the seeds for millet, pulses and local legume. The selection of farmers was made by the women farmers themselves. 200 women farmers were also linked to the zero-interest loans of Rs.5000 through an NBFC. 339 farmers were also supported to avail the benefits under the 'PM Kisan Samman Nidhi'.



THE SECOND WAVE

Support to Public Health Infrastructure

Community Health Centers (CHC) and Primary Health Centers in two blocks of Barmer District, Rajasthan were provided five 10lt. oxygen concentrators and three self-start generators. Two oxygen concentrators were provided in Poshina and Bhachau blocks, Sabarkantha and Kutch districts.



Frontline health workers were provided protective gear, oxymeters and thermal guns. Five rounds of orientations were done for 191 Auxiliary Nurse Midwife (ANM) and Accredited Social Health Activist (ASHA) on their role and use of the equipment. 400 sets of protective and monitoring gear were further arranged for the health functionaries in Gujarat and Rajasthan, including N95 face masks, face shield, thermal gun and sanitizer spray bottles. Material support was extended through medicine kits, Covid Care Family Kits and Hygiene Kits.

Support in Isolation and Quarantining

Counselling and testing help at the household level were provided to deal with fear, along with medication in mild cases. It was urgent to isolate symptomatic persons to prevent spread and to start treatment. Gram Panchayat-level isolation centres were not being utilised. To showcase community level isolation centres, 20 towns with the highest death rates were chosen in collaboration with the Health Department. This involved identifying the buildings that would sustain the target population, and

sanitising and equipping the facilities as needed. The community itself made the arrangements for the meals and the beds. UNNATI provided supplementary nutrition, helped to create behaviour protocols, facilitated monitoring of temperature and oxygen levels by ANM/ ASHA, and arranged daily visit by PHC doctor. 109 patients were successfully isolated. Support for appropriate home quarantining of 899 patients was also provided.

Support for Vaccination

200 village level volunteers from the 4 field blocks (from Rajasthan and Gujarat) supported the vaccination drive against Covid with the Health

Department, who had requested UNNATI's intervention for communities (Muslim, Kalbeliya, Bhil) and villages where the hesitancy was very high. Overall, 73,012 people from 4 field blocks were vaccinated through our efforts.

Training of Volunteers

A series of virtual capacity building trainings were conducted under "Samvaad Series" for CSOs on issues emerging out of Covid pandemic. Covering 10 sessions, some topics of discussion were- role of Gram Panchayats in COVID-19 response in Gujarat, Public schemes and issues of social security, Primary Education-Online/offline teaching and learning Challenges, Issues of slum dwellers amidst the COVID-19 pandemic, Issue of sanitary workers during lockdown and the pandemic, etc.

14 Block-level orientation of CSOs was also arranged across 10 districts of Gujarat, and overall, 275 volunteers associated with the member organizations of the Inter-Agency Group (IAG) of Gujarat, were oriented on vaccination, isolation and treatment within the village, and coordination with the government. These volunteers also facilitated vaccination for approximately 75,000 households. ■



Role of Janpath in Local Pandemic Preparedness

By Harinesh Pandya, Executive Secretary, JANPATH, Gujarat, India

Background
JANPATH is state level network of voluntary organizations and individuals of Gujarat. JANPATH focuses on issues affecting marginal communities with an approach of empowering them, and with a strategy of involving key stakeholders, creating voice for them among larger society, and co-ordinate with policy makers to get changes in favour of oppressed and marginalized.

Organizations and individuals associated with JANPATH are working in different parts of Gujarat with developmental and citizen's Rights issues with Tribals, Coastal communities, Nomadic and De-notified Tribes, Children, Youths, Women, Single women etc. Thus, during any natural or human made disaster, JANPATH plays prominent role of co-ordination between state and communities as well as with other supporters, donors, relief and rehabilitations workers.

JANPATH has vast experience of working in various disasters like Drought (1997-98, Cyclone (1999), Earthquake (2001) communal Violence (2002) Tsunami (2006)

Gujarat Floods (2007, 20017), Taukte (2020) and CVODI Pandemic.

Janpath's Intervention during Pandemic

JANPATH focussed on Agariya community (Salt farmers) and Tribal community in Banaskantha district during Pandemic. Both the communities are one of the most marginal communities of Gujarat in socio-economical context.

Agariyas (Traditional Salt farmers) migrate from Surendrangar, Patan, Morbi and Kutch district to Little Rann of Kutch from salt farming. They reside in desert area for 8 months, in make-shift shelters. During pandemic, Agariyas were in the desert. As JANPATH and Agariya Heet Rakshak Manch (AHRM), as organization associated with JANPATH is working with Agariyas for past decade, we have good rapport with them.

We reached out to community leaders and gave them demonstration on hand washing, use of sanitizers, important of social distancing. As Agariyas reside in scattered manner in the desert, an issue of maintaining social distance

in resolved automatically. However, they do come out of Rann areas for taking groceries, during which they had to be careful, not to become virus carrier for their family. There were nearly 6000 families in the desert during first lock down. We identified most needy families (around 2000) and mobilized direct ration kit and vegetable supply for these families. Around 2000 families were given direct support.

In addition to this we conducted awareness programme in more than 50 villages on the periphery to identify patients with symptoms and motivate them to go to government hospitals for test.

There were doubts and fear about tests, vaccination. We had one to one meeting with key stakeholders like community leaders, religious leaders, Panchayat, Sarpanch, Youths & convinced them to take vaccine. The pictures, videos, and stories of them were circulated and told to others. Slowly people started coming for vaccine.

Entire exercise was done in co-ordination with local administration





(Mamlatdar office) and district administration.

Interventions in Tribal Areas

We focussed on 65 villages of Danta block of Banaskantha district of Gujarat. These villages are in hilly areas, and predominantly have tribal population. Malnourishment ratio is high in these areas and this block is one of the aspirational blocks listed by government.

JANPATH did extensive relief (ration kit, as per local food habits, and sanitation kit) was distributed in all the villages to families with children, old age, pregnant women, and lactating mother.

We trained a team of local volunteers for checking temperature with thermal gun, pressure with BP meter and identify COVID suspects, and motivate them for antigen quick tests. Tribal community had misconception about vaccine, that person who takes vaccine will die in 8 days. Thus, our team demonstrated it by taking vaccine, that person is alive after 8 days, and roomers are not be believed. We also developed small video in local dialect through local Asha workers, and Anganwadi

Workers. Photo charts were made giving correct information on symptoms, tests, vaccine.

In Danta, people were preferring private hospitals than the government one. We visited CHC and after having several meetings with Taluka Health Officer, we decided to support for having separate COVID hospital (30 bed) in CHC at Makadi village.

Oxygen was laid from plant to hospital, beds, other equipment's required was procured. After that we started going to villages to send them to Government schools.

Panchayats, and community leaders played key role. We contacted Panchayat members and motivated them to do home visits to identify patients and get them to Primary Health Center and Community Health Center. Slowly CHC Makadi regained community's faith & today, number of patients going to PHC is considerable.

We after lockdown, we co-ordinated with local administration and Panchayat to start work under MGNREGA, which enabled local

workers to earn some income in their own village.

We also had awareness generation drive regarding free ration that every NFSA card holder family is entitled to get. Several co-ordination meetings held with FPS shop holders, and local official to sort out difficulties in distribution. Several complaints were filed against violation of provisions of National Food Security Act 2013.

We co-ordinated with Food and Civil supply dept, Women & Child Development Dept and Education department for release of circulars for mid-day meal and additional nutrition support mechanism during lock down.

COVID came slowly, but lock down decisions was announced without prior intimation. People were not prepared for it. Administration was also overloaded with work and there was limited mobility. The only thing which was in our hand was to make communities aware of facts, remove doubts from their minds so that they can take best decisions in addition to direct food and medical support to most needy families. ■

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