

Livelihood Challenges and Mitigation Strategies Adopted During COVID-19 Lockdown Period: Experience from 5 Selected Villages of Mulshi Taluka, Pune District, Maharashtra India

ABSTRACT

Over the past century, apart from COVID-19, human civilization has seen five other major pandemics such as the H1N1 outbreak in 2009, Ebola outbreak in West Africa in 2014, and subsequent outbreak in Congo in 2019, Zika outbreak in 2016 etc. However, of all these outbreaks, perhaps the COVID-19 pandemic is unparalleled due to the global proportions that it has assumed. The severity of the outbreak can be seen not just in terms of the number of lives lost, but also in terms of the multidimensional impact that COVID-19 has had upon the economies of nations and lives of people. Beyond the physical sphere of human life, COVID-19 has also impacted social, mental and economic aspects of human life.

This study was conducted to ~~understand~~ assess the challenges to livelihood, faced by the residents of 5 villages in Mulshi taluka, during the lockdown period and mitigation strategies adopted. In-depth interviews were conducted with 3 respondents from each village (total of 15 respondents). The study drew upon the insights given by key opinion leaders in the villages such as Sarpanch and elected members of the gram panchayat, ASHA workers, ration shop owners etc followed by desk review of the literature. The residents of the village's studies faced various challenges related to agriculture such as lack of manpower to harvest produce, lack of transportation facilities to transport produce to markets, lack of storage facilities to store agricultural produce etc, loss of employment faced by daily wage labourers due to non-operational status of small businesses during the lockdown period and challenges due to reverse migration.

Keywords: COVID-19, Livelihood challenges, Strategies, Lockdown, India

INTRODUCTION

WHO China country office was informed of pneumonia of unknown etiology on 31st December 2019, with earliest cases being detected in Wuhan city, Hubei province, China (World Health Organization, 2020). In India, the earliest case of COVID-19 infection was seen in a student who returned home from Wuhan University in China, to Kerala on 30th January 2020. [1] The government announced a complete lockdown on March 24th, 2020. Till date (as of 27th June 2020) over 13 lakhs confirmed COVID-19 positive cases and 32063 confirmed cases of death (World Health Organization, 2020).

As a response to contain the rapid spread of the disease, governments across the world announced a series of measures to contain the spread. [2] The measures included complete lockdown of various locations, testing of individuals who display certain symptoms, tracing of individuals who came in contact with COVID-19 positive cases and also isolation of

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- 1.Introduction
- 2.Objective of the research
- 3.Materials and method
- 4.Literature review
 - a. Subtitle 1
 - b.Subtitle 2
 - c.Subtitle 3
- 5.Finding and Discussion
- 6.Conclusion and Policy recommendation
- 7.Reference

individuals who either came in contact with positive cases or are showing signs of infection. [3]

RESPONSES ADOPTED BY INDIAN GOVERNMENT TO COMBAT WITH COVID-19

The lockdown in India which was announced on 24th March 2020 put over 1.3 billion individuals under a strict lockdown. From a strategic perspective this move was aimed at curbing the contact that individuals would have with each other, thus reducing interpersonal contact rates by over 75% and enabling the health system to prepare for probable onslaught of positive cases. [4] However, this lockdown also resulted in a loss of livelihoods for many individuals, especially the migrant population, and other hardships to people.

In India, over 50% of COVID-19 positive cases can be seen in the cities of Delhi, and Mumbai. While the majority of COVID-19 cases can be seen in urban areas in India, it is the villages across the nations that have also borne the brunt of the pandemic. [5] Indian villages and villagers, are facing multi-dimensional challenges such as loss of livelihoods due to the lockdown, the resultant loss of food security, migrant populations travelling back to the villages from various cities due to loss of food security and loss of livelihoods, difficulty in accessing healthcare services etc.

The Government of India, responding to the challenges being faced by the economy and the people of the nation announced a plethora of schemes under the umbrella of 'Atmanirbhar Bharat'. [6] The economic package that was worth over 23 billion US Dollars aims to support poor by providing them jobs under Mahatma Gandhi National Rural Employment Guarantee Scheme (MGNREGS), supply of food grains under PDS (Public Distribution System), free gas cooking cylinders etc., in addition to schemes to infuse monetary liquidity into economic system and spur economic growth. [7] This monetary stimulus package was in addition to the previous commitment announced by the Prime Minister to invest almost Rs. 150 billion to be devoted for the development of various healthcare facilities, including testing facilities for COVID-19, procurement of Personal Protective Equipment (PPE), Intensive Care Unit (ICU) beds, ventilators etc. [8]

Additionally, various state governments also took up welfare measures, and announced various welfare schemes and packages in order to support people and alleviate the distress faced by them. A good example of this being Kerala government announcing financial package worth 2.7 billion USD that covers health package, loan assistance, welfare pensions, free food grains etc. Furthermore, in a bid to ease various agricultural challenges, Govt exempted farming and related work from lockdown related restrictions. [9]

COVID-19 AND RURAL AREAS

The novel challenges due to COVID-19 situation has served to highlight the rich-poor and urban-rural dichotomies that exist in Indian society, while the number of patients were the most in metropolitan cities, it is the lives of the rural poor that has been affected most severely by the COVID-19 pandemic. [10] The impact on the lives of people can be seen in terms of healthcare challenges, livelihood challenges, entitlement challenges and social and behavioral challenges that has been faced by them due to the COVID-19 pandemic. It is also interesting to note that people and communities across the nation evolved their own mechanisms to either respond to the challenges or engage with the authorities to respond to the challenges arising out of COVID-19. [11] These responses were either led by individuals and volunteers who organized themselves into various groups, or non-governmental organizations that were involved in development activities or at times even led by elected representatives of the people. Together with various elected local bodies such groups of

philanthropists and philanthropic organizations worked towards generating awareness regarding COVID-19 among the people and developed different strategies to respond to various challenges faced by the people and society at large.

In villages, ASHA workers undertook door-to-door surveys to educate people about COVID-19, identify suspected cases and also track the health status of individuals returning to the villages. Non-Government Organizations utilized various innovative ideas, different types of technology and the community networks in disseminating the knowledge in villages through distribution of IEC materials. They adopted various methods such as dedicated IEC vans, pamphlet distributions in Dadra & Nagar Haveli (fresherslive, 2020), 'Whats app' videos in West Bengal, public announcement in Haryana (MoPR, 2020). Community groups such as Self-Help Groups (SHG) were involved to generate awareness at grass root level and ensure last mile dissemination of knowledge. [12] Such community groups and networks proved to be an excellent support to field workers e.g. SHG networks in Odisha actively participated in Mask preparations. Measures to promote personal hygiene were also promoted by Gram Panchayats through preparation and distribution of soaps at village level in Maharashtra and that of sanitizers in Kerala, Sikkim and Tamil Nadu (MoPR, 2020).

Villages dealt with challenges such as food insecurity by distributing food grains as was seen in Chhattisgarh state (The Print, 2020). Village level Task forces were set up to monitor the activities and decentralized approach was followed in Kerala and Karnataka to utilize resources that were available through village-level schemes for provision of food to the needy people. Teams of local volunteers which were formed at village levels supported in creating awareness as well as distributing food to needy sections of population in Jharkhand and Kerala states. [13] Members of SHG federations mainly participated in running community kitchens for needy and migrant population, preparation of face masks and sanitizers in Jharkhand, Odisha and Kerala. (MoPR, 2020).

Migrant labourers numbering over 482 million workers form the backbone of Indian industrial complex. The lockdown which completely or partially suspended all industrial activity other than those required for the essential services resulted in loss of jobs or severely reduced the earnings of this section of the population. [14] In addition to loss of earning, the migrants also had to deal with anxiety and fear of getting infected and lack of access to food, water or money and shelter (Jan Sahas, 2020). As a result of these challenges and lack of public transport, the migrants started travelling back to their native villages on foot, while enduring severely difficult conditions. When they reached their native villages, they were again viewed as possible carriers of illness.

Loss of jobs and daily wages in urban areas caused reverse migration towards rural areas across the country. [15] The phenomenon of reverse migration has also put an additional strain on the government health services machinery with the sudden rise in the population to be serviced; additionally, the migrant labourers also pose a risk for transmission of virus, apart from competing for the scarce jobs that are currently available in rural areas. The unemployment rate in rural areas increased from 8.3% to 21% at the end of March 2020, which has also adversely affected the rural consumption rate in India.

Agricultural sector has been amongst the most severely affected by the lockdown. Agricultural activities like harvesting, procurement etc. were hampered due to the lockdown. Agricultural production was also adversely affected because of scarcity of labourers, shortage of fertilizers and other essential material and lack of veterinary care. [16] Additionally, demand for fresh vegetables, milk, poultry also contracted due to closure of restaurants, sweet shops and other food processing units. Apart from these, disruptions to supply chain, loss of daily wages also caused severe diet insecurities for the poor sections of the population thus pushing them towards malnutrition.

This study sought to understand the challenges to livelihood faced by people in few select villages located in Mulshi taluka, Pune district, Maharashtra state due to COVID-19 pandemic and steps adopted by the community to overcome the challenges [17]. In [21] studied about impulsivity, reward and loss sensitivity in decision making using Iowa Gambling Task and investigates how impulsivity affects decision-making using sing BIS/BAS scale. Along with the classical LBP, features from the completed modeling of LBP are also utilized for the classification using K-Nearest Neighbor (KNN) [22].

Objectives

The objectives of the study can be listed as follows-

1. Identify the livelihood challenges faced by the people during the lockdown imposed due to COVID-19.
2. Describe the strategies adopted by the people to overcome the challenges to livelihood faced by the people.

METHODOLOGY

The study was conducted in 5 villages in Mulshi taluka of Pune district in Maharashtra India. The villages selected for the study were Lavale, Nande, Mulkhed, Rihe and Kharawade. The study population comprised of the key opinion leaders in the villages such as village level functionaries (ASHA, ANM, Anganwadi workers etc), members of the local self-government (Sarpanch, Gram Sewak, elected members of the Gram Panchayat etc) and other influential members in the village. The purposive sampling strategy was adopted for sample selection. [18] Key opinion leaders were divided into three categories depending upon the role played by them in the village eco system. This enabled the researcher to get a comprehensive and multi-faceted view of various challenges faced and strategies adopted at the village level. The three categories included a) Village level functionaries i.e. ASHA worker, Anganwadi worker, Auxillary Nurse Midwife (ANM) and Multi-Purpose Worker (MPW), b) Local Self Government i.e. Gramsevak, Sarpanch, Grampanchayat members etc. c) Others i.e. Self-Help Group members, Ration shop owners or any other influential person from the village. One person was selected from each of the three categories from each selected village. Total of 15 respondents were interviewed were interviewed for this study. [19]

The data was collected in form of in-depth interviews with help of an interview schedule in Marathi, which is the local language. The interviews were conducted telephonically by a trained investigator. [20]

The in-depth interviews were audio recorded, transcribed into Marathi language and translated into English. An inductive approach was used for qualitative data analysis to condense the extensive and varied raw data into a brief summary format, establish clear links between the research objectives and the summary findings derived from the raw data. The transcripts were analysed to identify frequently reported patterns related to the objectives and as a final step of analysis emergent themes were identified. The coding and analysis of the data was undertaken with help of the MAXQDA software version 11.0.

The study received ethics approval from the Independent Ethics Committee (IEC) of the Symbiosis International (Deemed University), Pune.

Findings

The government initiated the nationwide lockdown in an attempt to contain the spread of pandemic. While this was directed at preserving the health of the population, they also had to face multiple challenges to their livelihoods. Majority of the populace in the study area practice farming as their primary source of livelihood or are engaged in small business activities, or are gainfully engaged with various public or private agencies. It was observed that some individuals while being employed elsewhere also practice farming. It must be noted here that the villages which were studied are also home to migrant workers who either work as agricultural labourers, or are engaged as employees in various small businesses (like brick kilns and construction sites) or are employed in some form in or around the villages and reside in the villages.

The livelihood challenges faced by the residents in the villages can be categorised as agricultural challenges, challenges due to loss of employment, and challenges due to reverse migration. The following sections describe the livelihood challenges faced by the residents of the villages and the coping strategy adopted during the lockdown initiated to control the COVID-19 pandemic.

Livelihood challenges faced by people in the villages and coping strategies adopted
Agriculture challenges

Farmers, who owned agricultural land that were not irrigated, did not move out of their homes as they could not work in their farms. Additionally, farmers also faced several infrastructural and supply chain related issues such as lack of availability of fertilizers, lack of access to market for agricultural produce, low crop yield, lack of storage facilities etc. which led to immense levels of wastage especially of vegetable produce.

For a short period of time farmers faced difficulties in obtaining fertilizers and other agricultural inputs. The key opinion leaders shared that on one hand while most farmers reported lower yield of crops during the lockdown as compared to previous years, the lockdown also resulted in a subdued demand for various agricultural produce, which eventually forced the farmers to either store the minimal harvest or sell at unprofitable prices. While this was a factor for the losses suffered by farmers other contributing factors such as, lack of availability of agricultural labourers, non-availability of farm machinery or its high rental cost, and the lack of storage and lack of transport facilities compounded the difficulties faced. Some respondents also mentioned that agricultural produce was fetching lower prices in the market as compared to the previous year. As a result of these challenges, many farmers abstained from harvesting their crops. It was also found that in some cases family members were contributing in the labour and assisting in the farming activity. Many farmers however, had also anticipated the shortage of labour, the rising costs of seeds and fertilizers and had prepared accordingly.

Similar challenges were also observed in case of individuals engaged in livestock and poultry farming. Many livestock farmers reported a decline in income during the same time period, due to the transport restrictions; poultry farmers were not able to ensure a steady supply to the urban areas, which in turn caused heavy losses. Small scale farmers and dairy farmers also incurred hefty losses. Like the poultry, lack of availability of transport meant that, milk could not be transported outside the villages. In addition, there were several rumours also spread out among the people, from social media platforms pertaining to the avian linkage of the COVID 19 pandemic. This created an unwarranted panic about poultry products and added to the difficulties faced by the villagers. The steadily increasing fuel prices, resulted in the farmers having to bear high costs to procure fuel for their tractors and other farm equipment which further compounded their challenges.

The respondents shared that farmers and small business owners were not aware of the government scheme of 'loan waiver' that would have helped them to be eligible to take fresh credit. Poultry owners and milk business owners lacked knowledge of the new welfare schemes introduced by the government in the context of COVID-19.

Strategies adopted to cope with Agricultural challenges -Small attempts to survive the losses

Against this background many farmers opted to discontinue the work in farms. Some continued working by relying upon their own family members to work in the fields and saved money. In addition, where ever farming was possible, it was often followed by adhering to social distancing measures. Villagers were particularly careful of the health and safety of children, so they used to take the children with them to the farms. The excess vegetable yield that could not be supplied to the markets, or consumed at home, was distributed among the villagers to avoid the wastage but it did not help much. This resulted in a lot of vegetables rotting in the fields.

The wastage of milk and milk products due to reduced demand for dairy products, resulted in a scenario where people helped each other financially to sustain themselves. To compound the difficulties, the disruption in the supply chain of vegetables, poultry, livestock to meet the needs of the middle class residing in the cities, increased the complexity of the situation. Financially, losses incurred by the farmers as a result of the COVID-19 pandemic were severe. Currently the farmers are surviving either on their savings or have borrowed money from their friends or family. It is worth noting that many people have cut down on their discretionary expenses.

Challenges due to loss of employment faced by daily wages labourers

The villages are home to many migrant labourers who survive on daily wages. Most migrants travel to the villages in search of earnings and livelihood. Big farmers, owners of brick kilns, businesses etc. hire them and at times provide shelter too. The local administration does not have a system to maintain record of such labourers. This specific vulnerable population faced multiple challenges due to COVID-19 pandemic. They lost the work, income and were apprehensive about their future. Since some gram panchayat members told them not to leave the village during the lockdown period, they did not have any option other than to stay at villages without basic necessities. Some villages are also home to a small section of tribal population that work on the daily wages in the farms of different farmers. Their income is solely dependent on the earnings from the daily wages. They suffered heavy loss of income and were surviving on the threadbare essentials left with them.

Strategies adopted- Hiring from some farmers, distribution of free ration, PDS saved them from difficult times

During the lockdown period villagers provided the migrant workers with free food grains comprising of 5 kg of rice, wheat and dals per person in the family. The Gram Panchayat mobilised donations in cash and kind from various donors, which was then distributed to the needy people in the village. This enabled the migrant labourers to survive during challenging times. The villagers also screened labourers working at the brick kiln for symptoms. Katkari (tribe) labourers were given special attention and provided with ration so they do not go outside in search of daily wages. It was pointed out by some respondents that work under MGNREGS (Mahatma Gandhi National Rural Employment Guarantee Scheme) has come to standstill due to the lockdown, which had also affected the rural employment opportunities.

“Some farmers decided to hire the daily wage labourers in their farms so that they could earn money, a small gesture of benevolence” Deputy Sarpanch

A ration shop owner explained in detail the distribution of grains under the PDS system. He shared that the shop provides rations to 80% of beneficiaries from his village, he distributed 15 Kgs (5 Kgs of rice, wheat, tur dal and bangal gram dal respectively) of grains per person in a family. He also distributed 5 Kgs of free rice to each person in the family, and the shops were kept open for 12 hours daily. As per the directives of the government it was decided to extend the reach of the Public Distribution System and made available 3kg wheat and 2 kg rice per person to saffron ration card holders at subsidised rates. The other grains were distributed as per the norms prescribed by GOI and as per the Antyodaya Anna Yojana(AAY).

Challenge due to reverse migration

As soon as the news of the lockdown broke out people started travelling back from cities like Pune and Mumbai to the villages. In one of the villages which were studied, around hundred labourers arrived on a particular day. The tedious tasks included keeping a close eye on the migrants, informing them to bring fitness certificates from government health centres and quarantining them for a period of two weeks. Such situations tested the capacity of the local gram panchayats. ASHA and ANMs played an important role, of putting home quarantine stamp on the migrants for easy identification. They expressed the barriers of non-willingness and apprehension experienced while putting the stamps. The reluctance was because of the belief that they were asymptomatic and the stamp would trigger the feeling of discrimination in the villagers towards them. The herculean effort to put stamp often witnessed arguments, fights that created stress in the members of the gram panchayat and the health workers.

A particular incident shared by ASHA reflects the distress experienced in the villages.

A family had migrated to the village from Pune. Because of the fear and threat of the spread of the disease, a woman from the village collected group of other women and fought with the family. The strenuous situation was resolved after intervention from the gram panchayat members and the health workers. The members explained to the women that the family is educated and understands the significance of quarantine and were following the norms prescribed by the government, they had submitted the fitness certificate as well. So, there was no point in arguing with the family since they were harmless to the villagers.

An ASHA expressed that one individual who had migrated to the village from Parbhani, started moving around disregarding the stamp and instructions given to him by the gram panchayat. After a few days this individual, travelled back to Parbhani to bring his family to the villages. This behaviour was observed by the villagers and objections were raised. This resulted in the Police Patil of the village intervening, and warning the person that if he does not follow the rules he would be forced to leave the village. The warning led him to accept the process of quarantine. All these incidents highlight the conflicts that took place between the villagers and the migrants coming from outside the village.

Strategies to cope with the challenge- Mandatory fitness certificates continuous vigilance quarantine for two weeks for migrants

A Sarpanch stated that it was their duty to protect people from the risk of transmission by the influx of migration from cities to villages in this situation. They decided to develop a protocol in place in alignment with the norms of the GOI, which would demand the migrants to bring compulsory fitness certificate, a home quarantine stamp, and self-isolation for two weeks

and administration of thermal screening. A few villages had created facility for the migrants which were far from the main residential area. A support system was established with the help of local stakeholders to supply all the essentials to quarantined families.

“In an adverse situation like this Symbiosis helped us a lot by admitting the pregnant women”

ASHA

Gram Panchayat made arrangement of a bus to ferry migrant labourers stuck in the village to their native to Nandurbar. They were permitted to leave after availing fitness certificates and thermal screening.

DISCUSSION AND RECOMMENDATION

This study aimed at understanding the livelihood challenges faced by the villagers during the lockdown period due to COVID-19 pandemic and the steps taken to overcome the same. The findings observed that while one hand exhaustive efforts taken by the Gram Panchayat and the health workers to spread the awareness regarding COVID-19, the challenges that people were faced were multifaceted and multidimensional. In addition to healthcare challenges, the villagers also faced multiple livelihood challenges which were responded to by innovative approaches and philanthropic initiatives by the villages. This section discusses the findings from the study and makes recommendations for future action that can be taken to overcome the livelihood challenges.

Agricultural challenges

The key challenge experienced was financial losses for farmers and small-scale enterprises. Apart from loss of business, they also suffered loss due to disturbance in the supply chain, discontinuation of farming activities because of shortage of labour, lack of fuel for tractors and agricultural machinery. The findings were found to be similar to a recent nationwide survey conducted by the Harvard TH Chan School of Public Health and Public Health Foundation of India and Centre for Sustainable Agriculture that evaluated the impact of the lockdown on agriculture production and livelihood. Farmers across Andhra Pradesh, Bihar, Gujarat, Haryana, Karnataka, Madhya Pradesh, Maharashtra, Punjab, Rajasthan, Telangana, Uttar Pradesh and West Bengal participated in the survey (Downtoearth.org, S. 2020, May 21). The financial challenges were compounded by lack of awareness regarding various government welfare schemes.

The findings regarding sales crash of meat due to the myth that chickens are carriers of the coronavirus spread on the social media was also reported by various media outlets. The news revealed that the states of Maharashtra, Karnataka, Odisha and Andhra Pradesh appeared to be worst affected (Poultryworld.net. (2020, June 19). But presently, there is no research study available to understand the issue in detail. Further the reduction in the supply and sale of the dairy products caused severe losses to the farmers because of which they are experiencing hardship. Similar effect was observed in several rural areas of Maharashtra that was documented in the newspapers (Kumar, J. (2020, April 3). This specific area can be explored by further research.

Loss of jobs for daily wage workers of the rural area

The informal workers and the tribal facing financial losses due to crunch in the daily wages at the background of the pandemic highlight the severity of impact the lockdown has had

upon livelihood. Further being the only earning member in the family and without any social support the situation is particularly stressful.

A report by Periodic Labour Force Survey (PLFS), shares that about 90 % or 419 million of the total 465 million workers are engaged in informal sector with 95%, and 80% in rural and urban areas respectively. In terms of magnitude, the informal workers in rural areas (298 million) comprise almost 2.5 times higher than urban areas (121 million). This is primarily because of large number of informal workers are engaged in farm or agricultural activities (62%) in rural areas compared to only 8% in urban areas. This clearly reflects the high numbers of labourers engaged in the rural areas and so the economic aspect of the situation is worrisome especially in country like India (Times of India. (2020, April 13).

Migration

The reverse migration to the rural parts as stated in the finding creates a risk of transmission of the virus. This is reflected in the rise of number of patients of COVID-19 in some parts of rural India. In addition, it created burden to the existing healthcare systems that was voiced out by the key informants of the study. A report submitted to the Union health ministry, the government's Rapid Response Team (RRT) on COVID-19 recommended that local health authorities should focus on rural areas (Livemint (2020, May 28).

Recommendation

In order to overcome the livelihood and agriculture challenges, the Gram Panchayats must ensure dissemination of information regarding various government welfare schemes. The enrolment of beneficiaries in these schemes must be regularly monitored and those eligible should be proactively enrolled by the Gram Panchayats. This would ensure that the residents of the villages and migrants from various other places are all able to access welfare measures promulgated by the government. Additionally, Gram Panchayats and other local self-government bodies must have a database of migrant labourers who have migrated to the villages. This would enable the local self-governing bodies to target the delivery of various welfare measures and provide for their wellbeing.

Majority of the livelihood challenges that were faced by people can be described as supply chain related issues. Government and other authorities must work towards setting up robust supply chain mechanisms that can enable people to access various services and sell their products in the market place in a seamless manner. This coupled with the implementation of various welfare schemes would enable people to respond to such unexpected shocks in an effective manner.

The PDS has the widest reach in its ability to provide quick and immediate relief to the people. The government must universalise PDS and ensure that the rations are available to the people for the next six months. However, there are still a large number of households that are not connected to the PDS network, particularly in the vulnerable sections of the population. The government must decide to ensure that they are also included into the PDS network. Additionally, the government could also open cooked meal centres, which can provide cooked nutritious meals for the poor and hungry. Universalization of PDS along with the expansion of MGNREGS which will provide additional number of work days will enable people to overcome the immediate challenges to livelihood and also provide for their immediate consumption requirements.

CONCLUSION

The COVID-19 pandemic is now being touted as first of many illnesses that would affect life upon planet earth as we know it. The pandemic has brought to fore various issues ranging from Global warming and human animal interaction to humanitarian challenges and even issues of the modern-day economy. This study sought to understand the challenges that COVID-19 posed livelihoods in a rural area. There exists a deep-set need to not just improve healthcare infrastructure but also to ensure that there is widespread awareness regarding various government welfare schemes and also penetration of the same to the targeted beneficiaries in the society. From a livelihood's perspective, there exists a severe need to set up robust decentralised supply chains that would facilitate farm produce being collected from various sources and provided to the customers. But perhaps the greatest need of the hour is to work towards a decentralised model of development along the lines of Gandhian Swaraj that is not dependent upon and moves away from metropolitan cities to the villages of the nation.

COMPETING INTERESTS DISCLAIMER:

AUTHORS HAVE DECLARED THAT NO COMPETING INTERESTS EXIST. THE PRODUCTS USED FOR THIS RESEARCH ARE COMMONLY AND PREDOMINANTLY USE PRODUCTS IN OUR AREA OF RESEARCH AND COUNTRY. THERE IS ABSOLUTELY NO CONFLICT OF INTEREST BETWEEN THE AUTHORS AND PRODUCERS OF THE PRODUCTS BECAUSE WE DO NOT INTEND TO USE THESE PRODUCTS AS AN AVENUE FOR ANY LITIGATION BUT FOR THE ADVANCEMENT OF KNOWLEDGE. ALSO, THE RESEARCH WAS NOT FUNDED BY THE PRODUCING COMPANY RATHER IT WAS FUNDED BY PERSONAL EFFORTS OF THE AUTHORS.

REFERENCES

1. Anser, M. K., Yousaf, Z., Khan, M. A., Nassani, A. A., Alotaibi, S. M., Qazi Abro, M. M., Vo, X. V., & Zaman, K. Does communicable diseases (including COVID-19) may increase global poverty risk? A cloud on the horizon. Environmental research, 2020;187.
<https://doi.org/10.1016/j.envres.2020.109668>
2. Awasthi, P. The life of ASHA workers in the time of COVID-19, 2020. The Week.
<https://www.theweek.in/news/india/2020/04/10/the-life-of-asha-workers-in-the-time-of-covid-19.html>
3. Bhagat, R., R. R., Sahoo, H., Roy, A. K., and Govil, D. The COVID-19, Migration and Livelihood in India A Background Paper for Policy Makers International Institute for Population Sciences, Mumbai The COVID-19, Migration and Livelihood in India. Mumbai: International Institute of Population Sciences, 2020.
4. Bloomberg. Social distancing may impact teens' mental health, experts say. The Indian Express, 2020.
<https://indianexpress.com/article/lifestyle/health/social-distancing-impact-teenagers-mental-health-experts-study-6456682/>

5. Das, P. Panchayats take the lead in the fight against COVID-19 in Odisha. Frontline, 2020.
https://frontline.thehindu.com/dispatches/article31443827_ece
6. Dev, S. M., and Sengupta, R. Covid-19: Impact on the Indian economy. Indira Gandhi Institute of Development Research, Mumbai, 2020.
<http://www.igidr.ac.in/pdf/publication/WP-2020-013.pdf>
7. Gopalan, H. S., and Misra, A. COVID-19 Pandemic and Challenges for Socio-economic Issues, Healthcare and National Programs in India. Diabetes & Metabolic Syndrome: Clinical Research & Reviews, 2020, vol. 14(5):757-759.
8. Gupte, A. Coronavirus rumours cost India's poultry dearly. Poultry World, 2020.
<https://www.poultryworld.net/Meat/Articles/2020/6/Coronavirus-rumours-cost-Indias-poultry-dearly-600561E/>
9. Indian express. COVID-19 lockdown: 50% of surveyed households in rural India eating less, 2020.
<https://indianexpress.com/article/india/covid-19-lockdown-50-of-surveyed-households-in-rural-india-eating-less-6409667/>
10. Kapil, S. COVID-19: 60% farmers suffered yield loss on their harvest, shows survey. Down To Earth, 2020.
<https://www.downtoearth.org.in/news/agriculture/covid-19-60-farmers-suffered-yield-loss-on-their-harvest-shows-survey-71270>
11. Kumar, J. Covid-19: India's dairy co-ops urged to ensure milk supply. DairyGlobal, 2020.
<https://www.dairyglobal.net/Milking/Articles/2020/4/Indias-dairy-cooperatives-urged-to-ensure-supply-of-milk-565060E/>
12. Mehta, B. Covid-19 and the lockdown impact: Estimating the unemployment and job losses in India's informal economy. The Times of India, 2020.
<https://timesofindia.indiatimes.com/blogs/red-button-day-light/covid-19-and-the-lockdown-impact-estimating-the-unemployment-and-job-losses-in-indias-informal-economy/>
13. Ministry of Electronics and Information Technology, Government of India. India's Trillion Dollar Digital Opportunity, 2019.
https://meity.gov.in/writereaddata/files/india_trillion-dollar_digital_opportunity.pdf
14. Ministry of Panchayati Raj, Government of India. Advisories / Materials on Preventive Measures to curb the spread of nCoronavirus, 2020.
<https://www.panchayat.gov.in/covid>
15. Ministry of Panchayati Raj, Government of India. COVID-19 in India: State/UT level Initiatives at the Panchayat Level, 2020.
<https://www.panchayat.gov.in/documents/20126/0/COVID-State+initiatives+at+the+GP+Level+03042020.pdf/12505a82-3c8f-c75a-fdae-5cbddd0ae58c?t=1585975029688>
16. Mishra, S. P., Mishra, S., and Siddique, M. COVID-19, the global pandemic: Reviewed under India's prospective. Gedragen Organisatie, 2020, vol. 33(2):1581-1601.

<https://doi.org/10.37896/GOR33.02/167>

17. Mitra, P. The implications of COVID-19 for rural India. The Week, 2020.
<https://idronline.org/the-implications-of-covid-19-for-rural-india/>
18. Press Trust of India. India records highest single-day spike of 11,929 COVID-19 cases, tally reaches 3.2 lakh. Free Press Journal, 2020.
<https://www.freepressjournal.in/india/india-records-highest-single-day-spike-of-11929-covid-19-cases-tally-reaches-32-lakh>
19. Raghunandan, T. Responding to Covid-19 at the grassroots. The Hindu, 2020.
<https://www.thehindu.com/opinion/op-ed/responding-to-covid-19-at-the-grassroots/article31552359.ece>
20. Roy, D., Tripathy, S., Kar, S. K., Sharma, N., Verma, S. K., and Kaushal, V. Study of knowledge, attitude, anxiety & perceived mental healthcare need in Indian population during COVID-19 pandemic. Asian Journal of Psychiatry, 51, 2020.
<https://doi.org/10.1016/j.ajp.2020.102083>
21. Prakash, G. and Khan, A., 2012. Investigate the Role of Impulsivity in Decisions Making During Gambling Task: Case Study. International Journal of MC Square Scientific Research, 4(1).
22. Murugan, S., Ganesh Babu TR, and C. Srinivasan. Underwater Object Recognition Using KNN Classifier; International Journal of MC Square Scientific Research 9, no. 3(2017): 48-52.