UNIT 1: RURAL HEALTH INFRASTRUCTURE AND EMERGENCY MANAGEMENT OF EMERGENCIES[1]

Structure

1.0 OBJECTIVES

After studying this Unit, you should be able to:

- Explain the nature of rural health infrastructure;
- Examine the issues and challenges faced by the rural health infrastructure in India;
- Discover the components of emergency management in rural areas; and
- Suggest necessary strategies for improving rural emergency management.

1.1 INTRODUCTION

India, with its vast and diverse geography, is home to countless rural areas, each with its unique charm. These places are the backbone of the country, where agriculture plays a crucial role in sustaining livelihoods. In these villages, ensuring that everyone is healthy involves having a solid foundation of health infrastructure. This infrastructure is like the backbone of healthcare system, including hospitals, clinics, trained professionals, and resources to support everyone's well-being. The rural health statistics for the year 2021–2022 were released by the Ministry of Health and Family Welfare, Government of India on January 12, 2023. It provides data on the existing infrastructure at different

1 *Contributed by:* Dr. Vasim Khan, Assistant Professor, Economics and Management, Devi Ahilya University, Takshshila Campus, Khandwa Road, Indore M.P.

levels of the Public Healthcare center (PHCs) across states and union territories in the country. As per the study, "there were 161,829 sub-centres in India as on March 31, 2022, of which 157,935 functioned in rural areas. Out of 31,053 primary health centres functioning across India, about 24,935 PHCs were in rural areas. Furthermore, 6,064 functional Community Health Centres (CHCs) were there in the country, of which, 5,480 in were there in rural areas and 584 in urban areas".

People living in rural areas frequently encounter limited access to medical facilities, shortage of healthcare personnel, and infrastructure constraints, resulting in a complicated web of challenges for inhabitants seeking timely and effective care. As per the statistics, "the Community Health Centres (CHCs) lacked 83.2 per cent of the required surgeons, 74.2 per cent of the required obstetricians and gynaecologists, 79.1 per cent of physicians and 81.6 per cent of the required pediatricians. So, overall, there is a shortfall of 79.5 per cent specialists at the Community Health Centres, as compared to the requirement for existing Community Health Centres" (Rural Health Statistics Report, 2024 and The Tribune, Jan 10th, 2025).

The statistics also highlight a "3.1 per cent shortfall in the overall need for allopathic doctors at rural primary health centres throughout India. Significant shortages of doctors at PHCs (the difference between the number needed and the number currently employed) were observed in Odisha (298), Chhattisgarh (279), and Karnataka (60). This was true even though there were 30,640 allopathic doctors in PHCs in rural regions in 2022 compared to 20,308 in 2005, an increase of around 51 per cent" (Rural Health Statistics Report, 2024 and The Tribune, Jan 10th, 2025) .

1.2 UNDERSTANDING RURAL HEALTH INFRASTRUCTURE

The outbreak of the COVID-19 epidemic has revealed a more severe situation in India's rural areas compared to urban centres. Failing to effectively prevent and control the epidemic in rural areas poses a threat to the safety and health of rural residents. It also hampers the restoration of order in rural production and daily life, hindering the timely return of a significant number of people to the cities. This, in turn, can result in substantial losses to urban production, daily life, and normal operations.

The design of emergency management systems in rural areas is intricately linked with the overall effectiveness of national emergency management. Consequently, the government must give due attention to the challenges presented by major public emergencies, particularly concerning rural economic security, agricultural production safety, and the personal safety of farmers. The emergency management framework in rural areas deserves comprehensive attention and research efforts.

Health infrastructure is the cornerstone of a healthy and prosperous society. Rural health is vital because a substantial portion of our population resides in rural areas. These areas often face unique challenges, including limited access to healthcare services, inadequate facilities, and a lack of awareness about health-related issues.

Rural health infrastructure refers to the organised network of healthcare facilities, services, and support systems specifically designed to meet the health needs of populations residing in rural or remote areas. In India, a significant portion of the population resides in rural areas, making the development of rural health infrastructure crucial.

Emergency management in rural areas is crucial for the safety and well-being of communities that are often spread out and may face unique challenges. In simple terms, it is like making a plan to deal with unexpected events, like natural disasters or accidents, in places where there might not be as many resources or people nearby. In rural areas, floods, wildfires, or medical emergencies can be especially challenging because help might take longer to arrive to such areas.

So, emergency management in these areas involves preparing for these situations by creating evacuation plans, training local responders, and ensuring that everyone knows what to do in case of an emergency. It is like a community coming together to be ready for anything, like a team that practices and plans so that if something unexpected happens, the community can respond and help each other out as best as possible.

The National Rural Health Mission (NRHM) was launched on 12th April 2005, with the aim of ensuring that the rural population, particularly vulnerable groups, has access to affordable and high-quality healthcare. The key components for accomplishing the Mission's objectives involve establishing a fully operational and community-accountable public health delivery system, effective human resources management, community engagement, decentralisation, rigorous monitoring and evaluation based on standards, integration of health and related programmes at the village level and beyond, fostering innovation, flexible financing, and implementing interventions to enhance health indicators.

The following health indicators demonstrate the significant achievements of the mission: "Infant Mortality Rate (IMR) was successfully reduced to 30 per 1000 live births by 2012, while Maternal Mortality saw a reduction to 100 per 100,000 live births by the same year. The Total Fertility Rate (TFR) met the target of 2.1 by 2012. Notable progress was made in combating specific diseases, with a 50 per cent reduction in Malaria Mortality by 2010, followed by an additional 10% reduction by 2012. Kala Azar Mortality achieved a remarkable 100 per cent reduction by 2010, sustaining elimination until 2012. The Filarial/Microfilariae Reduction Rate reached 70 per cent by 2010, 80 per cent by 2012, with the goal of complete elimination by 2015. Dengue Mortality showed a 50 per cent reduction by 2010, maintaining that level until 2012. Cataract operations increased to 46 lakhs by 2012. Leprosy Prevalence Rate successfully decreased from 1.8 per 10,000 in 2005 to less than 1 per 10,000 thereafter. Tuberculosis Directly Observed Treatment Short Course (DOTS) series aimed to maintain an 85 per cent cure rate throughout the mission period and sustain the planned case detection rate. All community health centres were targeted for upgrading to Indian public health standards. The objective of increasing the utilisation of first referral units from a bed occupancy rate of referred cases less than 20 per cent to over 75 per cent was pursued. Additionally, the engagement of 4,00,000 female Accredited Social Health Activists (ASHAs) was a key component of the mission's strategy" (PIB,2022 ;MoSPI,2022).

1.3 RURAL HEALTHCARE SYSTEM: STRUCTURE AND CURRENT SCENARIO

After the Ayushman Bharat Programme's implementation, Sub-centres and Primary Health Centres (PHCs) are being strengthened by converting them into Health and Wellness Centres to provide comprehensive primary healthcare services through these centres. The proposal is to gradually transform SCs and PHCs into Health and Wellness Centres.

a) **Sub-centres:** The sub-centres (SCs) serve as the initial and outermost point of contact between the primary healthcare system and the community. It is entrusted with interpersonal communication responsibilities to induce behavioural change and deliver services across various programmes, including maternal and child health, family welfare, nutrition, immunisation, diarrhoea control, and managing both communicable and non-communicable diseases.

   According to the Rural Health Statistics (RHS-2021-2022), as of March 31, 2022, "the country has 157,935 operational rural sub-centres. A notable growth in the number of centres has been witnessed since the year 2005, particularly in the states of Rajasthan (3,011), Gujarat (1,858), Madhya Pradesh (1,413), and Chhattisgarh (1,306), reflecting a significant increase".

b) **Primary Health Centres:** The Primary Health Centre (PHC) serves as the initial point of contact between the village community and the medical officer. These centres have been designed to deliver comprehensive curative and preventive healthcare services to rural populations, focusing on preventive and promotive aspects of healthcare. State governments are responsible for establishing and maintaining PHCs under initiatives such as the Minimum Needs Programme (MNP) or Basic Minimum Services (BMS) Programme. At the national level, as of March 31, 2022, "there are 24,935 operational Primary Health Centres (PHCs) in rural areas. The growth in the number of PHCs since 2005 has been particularly notable in the states of Jammu & Kashmir (557), Karnataka (457), Rajasthan (420), Gujarat (404), and Assam (310)".

Community Health Centres: Community Health Centres (CHCs) are established and sustained by the State government through programmes like MNP/BMS. According to minimum standards, a CHC is expected to have a team of four medical specialists, namely Surgeon, Physician, Obstetrician/Gynaecologist, and Pediatrician, along with support from paramedical and other staff. It is equipped with 30 indoor beds, an Operating Theatre (OT), X-ray, labour room, and laboratory facilities. CHCs function as referral centres for four Primary Health Centres (PHCs) and offer services for obstetric care and specialised consultations. As on 31st March, 2022, "5480 CHCs are functioning in rural areas of the country. At national level, there is an increase of 2134 CHCs in 2022 with comparison to the year 2005" (RHS, 2022) .

Changes in the Manpower Position in Rural Areas

"The count of Auxiliary Nurse Midwives (ANMs) at sub-centres and Primary Health Centres has experienced a growth from 133,194 in 2005 to 207,587 in 2022, representing an increase of approximately 55.9 per cent. As of March 31, 2022, the overall deficiency in the positions of Health Workers (Female) / ANMs is 3.5 per cent of the total requirement, following the standard of one Health Worker (Female) / ANM per sub-centre and PHC (excluding any existing surplus in certain states). The current vacancies for Health Workers (Female) / ANM positions (at sub-centres + PHCs) stands at 14.4 per cent compared to the sanctioned posts" (Das and Singh,2022).

"The number of allopathic doctors at Primary Health Centres (PHCs) has risen from 20,308 in 2005 to 30,640 in 2022, marking an increase of approximately 50.9 per cent. However, there remains a deficit of 3.1 per cent in the availability of allopathic doctors at PHCs compared to the overall requirement at the national level. The number of specialist doctors at Community Health Centres (CHCs) has grown from 3,550 in 2005 to 4,485 in 2022. However, in relation to the demand for the current infrastructure, there is a deficiency of 83.2 per cent in Surgeons, 74.2 per cent in Obstetricians and Gynaecologists, 79.1 per cent in Physicians, and 81.6 per cent in Pediatricians. In total, there is an overall shortage of 79.5 per cent of specialists at CHCs when compared to the required number for existing CHCs" (The Print, 2023).

Apart from the specialist doctors, as of March 31, 2022, there are approximately 17,348 General Duty Medical Officers (GDMOs) in Allopathic, 661 AYUSH Specialists, and 2,971 GDMO AYUSH available at Community Health Centres (CHCs). Furthermore, there are 696 Anaesthetists, and 228 Eye Surgeons also present at CHCs as of the same date.

1.4 RURAL HEALTH INFRASTRUCTURE: ISSUES AND CHALLENGES

The Indian healthcare landscape is marked by stark contrasts, ranging from modern high-tech medical facilities catering to the affluent urban population to struggling health sub-centres in remote regions. The country, with a rich tradition of public health, faces the challenge of providing "Universal Health Coverage'' to its diverse population of over 1.2 billion people. Studies identify five critical challenges in healthcare delivery: awareness, access, absence of an adequate health workforce, affordability, and accountability. These challenges encompass issues such as low health awareness due to education gaps, unequal access to quality healthcare, a shortage of well-distributed health personnel, the dominance of costly private healthcare, and a need for increased accountability and ethical considerations within the profession. Also, the importance of raising awareness, improving access, addressing workforce shortages, making healthcare affordable, and fostering accountability to ensure the well-being of the population in the face of evolving complexities in the healthcare system are emphasized.

Rural health infrastructure in India faces a myriad of issues and challenges that significantly impact the healthcare delivery system in rural areas. Here is a breakdown of the key issues and challenges:

- **Inadequate Healthcare Facilities:** The issue of inadequate healthcare facilities in rural India encompasses a multifaceted challenge characterised by limited accessibility, shortage of critical infrastructure, and a dearth of essential medical personnel. Geographical barriers often isolate rural communities, making it arduous for residents to access healthcare centres. Even when PHCs exist, they are often insufficient in number and also understaffed. The shortage of doctors, nurses, and paramedical staff compounds the problem, leading to overcrowding and compromising the quality of care. CHCs, intended to provide a higher level of care, face similar challenges, with critical gaps in specialized services and medical equipment. The overall infrastructure of rural health facilities is often substandard, with inadequately equipped buildings, outdated medical technology, and unreliable access to power and clean water. This deficiency extends to diagnostic capabilities, medication availability, and the overall quality of healthcare services. Addressing this issue necessitates comprehensive efforts, including infrastructure development, increased staffing, and improved access to essential amenities, to ensure equitable and quality healthcare delivery in rural areas.
- **Lack of Basic Amenities:** In many villages and remote areas, there is a shortage of clean water, proper sanitation, and reliable electricity in healthcare centres. Imagine going to a place for medical help, and then to unless that there's no clean water, the toilets are not clean, and sometimes there's no electricity. This makes it challenging for doctors and nurses to do their jobs effectively and for patients to receive proper care in a clean and safe environment. To improve rural health, it is important to ensure that these basic amenities are available in healthcare facilities.
- **Healthcare Personnel Shortage:** The number of healthcare workers in these areas is not sufficient, making it hard for people to get the medical attention they need. Even if there is a health centre, it may not have enough doctors or nurses. This shortage of healthcare workers can make it challenging for the community to access proper medical care, leading to delays in treatment and impacting on the overall health of the people living in rural areas. To solve this issue, it is important to find ways to attract more healthcare professionals to work in rural places and improve the healthcare services available there.
- **Limited Medical Equipment and Technology:** Many health centres in villages do not have modern machines or devices that doctors use for accurate diagnosis and treatment. This lack of equipment makes it difficult to provide the best possible care to people living in these areas. It is like trying to fix something without having the right tools – having the

right medical equipment is crucial for doctors to identify health issues and provide the right solutions. Improving this situation involves providing these health centres with the necessary tools and technologies to ensure better and more effective healthcare for people in rural communities.

- **Poor Transportation and Connectivity:** In rural areas, it is difficult for people to travel to places where they can get medical help. Many villages are far away from hospitals or clinics, and the roads might not be good. This makes it hard for sick people to reach healthcare centres quickly. Also, the lack of good communication links makes it challenging to share important health information between different places. In simple terms, not having proper ways to travel and communicate makes it tough for people in rural areas to access and receive timely medical assistance.
- **Lack of Awareness and Education:** In rural areas of India, many people do not know enough about staying healthy, and this lack of knowledge creates problems. People may not be aware of the importance of going to the doctor for regular check-ups or taking preventive measures to avoid getting sick. Additionally, people might not be aware of the symptoms of diseases, and they may delay seeking medical help. This lack of awareness often stems from a shortage of educational programmes and information about health in rural communities. It is important to focus on educating people about simple but crucial health practices to improve overall well-being.
- **Natural Disasters and Climate Change:** Natural disasters and climate change are big challenges for healthcare in rural areas. Natural disasters like floods, storms, and earthquakes can damage hospitals and roads, making it hard for people to get medical help. Climate change, which means changes in weather patterns over time, can also affect health. For example, it might lead to more diseases or make certain health problems worse. In rural places, where resources are limited, these issues can make it difficult to provide proper medical care to people who need it. So, it is important to think about how to prepare for these problems and protect the health of people living in rural areas.
- **Disease Burden and Epidemics:** In rural areas of India, there is a big problem of diseases, and sometimes there are outbreaks of illnesses affecting many people at one time, called epidemics. These areas often face challenges because of a high number of illnesses that can easily spread. Common diseases like infections can quickly become widespread due to factors such as lack of clean water, sanitation, and proper healthcare facilities. When many people in a community get sick at the same time, it can overwhelm the limited healthcare resources available in those areas. This makes it difficult for people to get the right help and medicine they need, and it can also strain the ability of local health centres to respond effectively. So, dealing with the burden of diseases and preventing epidemics is a crucial challenge for healthcare in rural India.

Check Your Progress 1

Note: i) Use the space given below for your answers.

ii) Check your answers with those given at the end of the Unit.

1) Explain the nature of rural healthcare system of India.

....

....

....

....

2) What are the issues and challenges of rural health infrastructure?

....

....

....

....

1.5 COMPONENTS OF EMERGENCY MANAGEMENT IN RURAL AREAS

The World Health Organization (WHO) advocated for the improvement of emergency medical systems in low- and middle-income countries (LMICs) in 2005, acknowledging the inevitability of emergencies and the need for enhanced planning, training, and capacity building. A well-organised emergency care (EC) system tailored to the specific needs of LMICs contributes to health equity and cost-effectiveness, significantly reducing avoidable deaths and disabilities. The 72nd World Health Assembly in 2019 pledged support to countries in establishing timely care for acutely ill and injured individuals, emphasising the importance of universal access to emergency care. The WHO Director-General underlined the global commitment to prevention of deaths due to a lack of emergency care and highlighted the feasibility to achieve this through the organisation's General Programme of Work 2019-2023.

India, a signatory to this resolution, faces challenges in establishing a comprehensive emergency care system for its 1.38 billion population, characterised by a high trauma mortality rate, increasing emergency burdens, and frequent natural disasters. The World Bank has reputed that despite COVID-19 restrictions, over 131,000 people lost their lives in road accidents in India in 2020, with a 7 per cent increase in road accident deaths in the first five months of 2022, emphasising the urgent need to strengthen post-crash (Accident) medical care.

Emergency management in rural areas involves systematic planning, coordination, and implementation of measures to prevent, prepare for, respond to, and recover from various emergencies and disasters. This encompasses a wide range of natural and human-made events, such as floods, earthquakes, fires, and health crises. The concept recognises the unique challenges faced by rural communities and aims to build resilience to minimise the impact of emergencies.

Components of Emergency Management in Rural Areas

Emergency Preparedness: Emergency preparedness in rural areas refers to the proactive measures, plans, and strategies implemented by communities, local authorities, and relevant organizations to effectively anticipate, respond to, and recover from various emergencies and disasters that may impact rural settings. This comprehensive approach involves preparing for a range of potential threats, including natural disasters (such as floods, earthquakes, and storms), health crises, and other emergencies.

In rural emergency preparedness, community engagement is central. It involves raising awareness among residents about potential risks and educating them on appropriate actions to take in case of emergencies. This may include organising training sessions on first aid, evacuation procedures, and disaster preparedness. Additionally, establishing and regularly practicing communication channels is crucial for disseminating timely and accurate information during emergencies, especially in areas with limited connectivity.

Infrastructure development plays a vital role in preparedness. This includes ensuring that essential facilities such as primary health centres, emergency shelters, and access roads are designed and maintained to withstand potential disasters. Collaborative efforts between local authorities, community leaders, and relevant stakeholders are essential to developing and implementing effective emergency plans that address the specific needs and vulnerabilities of rural populations.

Furthermore, preparedness extends beyond immediate response to encompass long-term strategies for resilience and recovery. This involves identifying and mitigating risks, developing sustainable practices, and fostering a sense of community cohesion. By investing in comprehensive emergency preparedness tailored to the unique characteristics of rural areas, these communities can enhance their ability to cope with, respond to, and recover from a variety of emergencies, ultimately safeguarding the lives and livelihoods of their residents.

Emergency Response: Emergency response in rural areas is the coordinated set of actions and measures undertaken to address the immediate challenges posed by unforeseen events, disasters, or crises within rural communities. In the context of rural regions, where access to resources and services can be limited, emergency responses become especially critical. This process involves swift mobilization of resources, including personnel, medical services, and essential supplies, to provide immediate assistance. The key focus is on life-saving interventions, ensuring the safety and well-being of residents in the aftermath of events such as natural disasters, health emergencies, or accidents. Coordinated efforts with local authorities, community organisations, and relevant stakeholders are essential for an effective response. Additionally, communication plays a crucial role in disseminating accurate information to the rural population, guiding the necessary actions. Emergency response in rural areas encompasses evacuation plans, medical assistance, resource allocation, and the initiation of recovery planning. The unique challenges faced by rural communities, including limited access to healthcare and infrastructure, necessitate tailored strategies to address their specific needs and promote resilience in the face of emergencies.

Recovery: Recovery refers to the comprehensive and sustained efforts undertaken to rebuild, rehabilitate, and restore the social, economic, and physical fabric of a community in the aftermath of a disaster or emergency. In rural settings, recovery involves addressing the unique challenges posed by limited resources, geographic isolation, and the dependence of livelihoods on agriculture and traditional occupations. This process includes assessing the damage caused by the emergency, prioritising needs, and implementing strategies to enhance the resilience of the community.

In the recovery phase, attention is given to rebuilding critical infrastructure such as homes, schools, and healthcare facilities that may have been damaged or destroyed. For rural economies heavily reliant on agriculture, recovery efforts extend to restoring farmlands, providing support for livestock, and reviving agricultural practices. Additionally, initiatives to strengthen community bonds, restore essential services, and ensure mental health support play a crucial role in the recovery process.

Recovery in rural areas is not only about restoring what was lost but also about building back better. This involves incorporating resilience measures into the reconstruction process, adopting sustainable practices, and implementing strategies that mitigate the impact of future emergencies. Community engagement is central to rural recovery, as the involvement of local residents ensures that the recovery plan aligns with the specific needs and aspirations of the community.

Given the limited access to resources and the potential for prolonged disruptions in rural areas, a well-managed recovery process is fundamental for restoring normalcy and fostering long-term sustainability. It involves a collaborative effort among government agencies, non-governmental organisations, community leaders, and residents to navigate the challenges and opportunities that arise during the recovery journey in rural settings.

1.6 STRATEGIES FOR IMPROVING RURAL EMERGENCY MANAGEMENT

The National Disaster Management Authority (NDMA), led by the Prime Minister of India, serves as the highest authority for Disaster Management in the country. The establishment of NDMA and the facilitation of supportive frameworks at the State and District levels are mandated by the Disaster Management Act of 2005. NDMA's role includes formulating policies, plans, and guidelines for effective Disaster Management, aligning with India's vision of fostering a culture focused on Prevention, Mitigation, Preparedness, and Response.

The Indian government is committed to fostering a collective effort among various stakeholders, including government agencies, non-governmental organisations, and active public participation, to mitigate the impact of both natural and human-made disasters. This commitment is articulated through a proactive, technology-driven, multi-hazard, and multi-sectoral approach to build a safer, disaster-resilient, and dynamic India.

The NDMA Logo symbolises the national vision of empowering all stakeholders to enhance the efficiency of disaster management in India. NDMA comprises five major divisions: Policy and Plans, Mitigation, Operations and Communications, Information and Technology, and Administration and Finance.

Improving rural emergency management involves implementing strategies that address the unique challenges faced by rural communities. Following here are the key strategies for enhancing emergency management in rural areas:

- **Community-Based Preparedness Programmes**

Implementing community-based preparedness programmes is crucial for rural areas in India. These programmes should include training sessions on basic first aid, evacuation procedures, and awareness campaigns regarding local hazards such as floods, droughts, or cyclones. Empowering local communities to respond effectively to emergencies is a key strategy.

- **Early Warning Systems**

Establishing and enhancing early warning systems tailored to the specific risks faced by rural areas is essential. This includes deploying technology such as weather monitoring devices, sirens, and mobile alerts to promptly inform residents about imminent threats. In India, where natural disasters like floods and cyclones are common, timely warnings can significantly reduce the impact on vulnerable rural populations.

- **Infrastructure Development**

Investing in resilient infrastructure is crucial for improving rural emergency management. This involves constructing robust shelters, roads, and bridges that can withstand disasters. Additionally, ensuring access to clean water and sanitation facilities is vital for preventing the spread of diseases during emergencies.

- **Capacity Building for Local Authorities**

Enhancing the capabilities of local authorities, including emergency response teams and local government officials, is pivotal. Training programmes should focus on incident command systems, resource management, and coordination with higher-level response agencies. Strengthening the leadership and decision-making skills of local authorities contributes to more effective emergency responses.

- **Integration of Technology**

Leveraging technology for communication and data management is crucial in rural emergency management. Implementing mobile applications for reporting emergencies, GIS mapping for resource allocation, and satellite imagery for monitoring disaster-prone areas can significantly improve the efficiency and effectiveness of emergency responses.

- **Healthcare Infrastructure and Mobile Medical Units**

Strengthening healthcare infrastructure in rural areas is paramount. Establishing mobile medical units equipped with essential medical supplies and personnel can ensure timely medical assistance during emergencies. This strategy addresses the healthcare needs of rural populations, particularly in the aftermath of natural disasters.

- **Livelihood Diversification and Economic Resilience**

Encouraging livelihood diversification and promoting economic resilience in rural communities are long-term strategies. This involves supporting alternative income sources and sustainable agricultural practices that can withstand environmental challenges. Economic resilience contributes to the overall resilience of rural communities in the face of emergencies.

- **Education and Training Programmes**

Conducting regular educational programmes on disaster preparedness and response in schools and local community centres is crucial. This helps create a culture of safety and awareness from a young age, ensuring that future generations are better equipped to handle emergencies in rural areas.

- **Public-Private Partnerships**

Fostering collaborations between the government, private sector, and non-governmental organisations is essential. Public-private partnerships can enhance resource mobilisation, improve infrastructure development, and streamline the distribution of relief materials during emergencies in rural areas.

- **Research and Data Analysis**

Investing in research and data analysis specific to the vulnerabilities and risks in rural areas is necessary. This information can guide evidence-based decision-making, helping authorities prioritise resources and interventions to address the unique challenges faced by rural communities in India.

Implementing a combination of these strategies tailored to the specific needs of rural areas in India can significantly enhance the overall capacity of emergency management and resilience of these communities.

Check Your Progress 2

Note: i) Use the space given below for your answers.

ii) Check your answer with those given at the end of the Unit.

1) Explain the components of Emergency Management in rural areas.

....

....

....

....

2) What are the strategies for improving Rural Emergency Management?

....

....

....

....

1.7 CONCLUSION

In conclusion, we can say that this Unit has shed light on the critical intersection of rural health infrastructure and the effective management of emergencies. It examined the unique challenges faced by rural communities, from limited access to healthcare facilities to the scarcity of resources and trained personnel. It is evident that a robust and resilient health infrastructure is imperative for the timely and efficient response to emergencies in rural areas.

As mentioned in the Unit, we must not forget that India comprises of unique rural landscape where agriculture plays a pivotal role in sustaining livelihoods. Ensuring the health of everyone in these villages requires a robust foundation of health infrastructure, encompassing hospitals, clinics, trained professionals, and resources. The trajectory is full of challenges as well as promises. To address these issues, it is essential for the government to invest in the development of rural health infrastructure, including the establishment of well-equipped healthcare centres and the provision of necessary medical equipment. Additionally, efforts should be made to train and deploy more healthcare professionals in rural areas, ensuring that communities have timely access to medical expertise during emergencies.

Moreover, fostering community engagement and awareness can play a pivotal role in building a proactive system that is not only responsive during emergencies but also preventive in its approach. It is essential for policy makers, healthcare providers, and community leaders to collaborate closely in developing sustainable solutions tailored to the unique needs of rural areas. By addressing the gaps in infrastructure and emergency management, we can significantly improve health outcomes and enhance the overall well-being of rural populations.

Collaboration between the government, non-governmental organizations, and local communities is key to implementing sustainable solutions. By working together, stakeholders can create a resilient and responsive rural health system that can effectively manage emergencies and improve overall health outcomes in rural India. In essence, rural health should not be viewed as an isolated challenge but as an integral part of the broader healthcare landscape. Only through concerted efforts and strategic investments, can we ensure that rural communities receive the care they need, precisely when they need it, even in the face of emergencies. Moving forward, advocating for policies and practices that transform rural health infrastructure into a resilient and compassionate network, capable of effectively managing emergencies and safeguarding the health of each and every individual in these communities.

1.8 GLOSSARY

Accredited Social Health Activist (ASHA): A community health worker who works to improve the health of the community.

Ayushman Bharat Pradhan Mantri Jan Arogya (PM-JAY): It is a flagship scheme of Government of India, launched in September 2018, as recommended by the National Health Policy 2017, to achieve the vision of universal health coverage. It is a national public health insurance scheme of Government of India.

Community Health Centre (CHC): A Community Health Centre is a larger healthcare facility that acts as a referral point for several Primary Health Centres and serves a larger population. CHCs are equipped with more specialized medical services, including inpatient care, emergency services, and diagnostic facilities. They often have a team of medical specialists, including physicians, surgeons, obstetricians, and pediatricians. The primary function of a CHC is to provide more advanced healthcare services, handle complicated cases, and support the PHCs in their catchment area.

Directly Observed Therapy Short-Course (DOTS): It is a strategy used to treat tuberculosis (TB). It is the name given to the TB control strategy recommended by the World Health Organization.

Emergency Preparedness: In rural areas, emergency preparedness involves the proactive steps, plans, and strategies taken by communities, local authorities, and relevant organizations. These efforts aim to anticipate, respond to, and recover from different emergencies and disasters that could affect rural settings. This thorough approach includes getting ready for various potential threats like natural disasters such as floods, earthquakes, and storms, as well as health crises and other emergencies.

Infant Mortality Rate: It is the number of deaths of infants under one year of age per 1000 live births.

Maternity Mortality Rate: The number of maternal deaths per 100,000 live births in a given time period.

National Rural Health Mission (NRHM): It was launched in 2005 to provide affordable, accessible and quality healthcare to the rural population. The NHRM is now a part of National Health Mission launched in 2013.

Primary Health Centre (PHC): A Primary Health Centre is a higher-level healthcare facility compared to a sub-centre. It serves as the first point of medical contact for a group of villages or a defined population. PHCs are usually staffed with doctors, nurses, and other healthcare professionals. They offer a wider range of healthcare services, including outpatient care, maternal and child health services, family planning, immunization, and basic diagnostic facilities. The primary goal of a PHC is to provide comprehensive and accessible primary healthcare services to the community it serves.

Sub-centre: A sub-centre is the most basic level of healthcare infrastructure in rural areas. It serves as the first point of contact between the primary healthcare system and the community. Typically staffed by a trained health worker, such as an Auxiliary Nurse Midwife (ANM) or a Male Health Worker, a sub-centre is responsible for providing essential healthcare services, preventive measures, and promoting health awareness in the community. Sub-centres play a crucial role in maternal and child healthcare, immunization programmes, and basic medical care.

1.9 REFERENCES AND FURTHER READINGS

Das, Manoja Kumar and Deepak Singh (2022), Nurses and Midwives Human Resource for Health and Their Education in India: A Situational Analysis, https://pmc.ncbi.nlm.nih.gov/articles/PMC8958234/

Government of India. (2021). Annual Report 2005-12. National Rural Health Mission. https://nhm.gov.in/WriteReadData/l892s/nrhm-framework-latest.pdf

Government of India. (2022). Rural Health Statistics (2021-2022) https://ruralindiaonline.org/en/library/resource/rural-health-statistics-2021-22/#:~:text=As%20of%20March%2031%2C%202022%2C%20there%20were%206%2C064%20functional%20CHCs,)%20and%20Chhattisgarh%20-(1%2C306).

Gupta, M. & Ahuja, R. (2022). Role of Technology in Improving Rural Health Emergency Responses: A Case Study in India. Journal of Rural Health, 38(1), 56-67.

Kumar, A. & Reddy, K. S. (2018). Challenges in Rural Health Infrastructure: A Case Study in India. Journal of Health Management, 20(2), 123-135.

Ministry of Statistics and Programme Implementation (MoSPI), (2022) https://mospi.gov.in/sites/default/files/publication_reports/women-men22/HealthStatistics22.pdf

Mishra, A., Yadav, D., & Kole, T. (2023), Emergency Care in India: Beyond 75 Years of Independence – Problems and Solutions.

National Disaster Management Authority. (2019). Guidelines for Rural Emergency Management in India. Retrieved from https://www.ndma.gov.in/ World Health Organization. (2020). Emergency Response Framework. Retrieved from https://www.who.int/

Ministry of Health and Family Welfare, Government of India. (2021). National Rural Health Mission: Strategic Framework for Emergency Preparedness and Response. Retrieved from https://www.mohfw.gov.in/

Press Information Bureau (PIB) (2022) https://pib.gov.in/PressReleaseIframePage.aspx?PRID=1796436

Raju, S., & Patel, V. (2017). Strengthening Rural Healthcare: Lessons from Emergency Management in India. International Journal of Disaster Risk Reduction, 25, 234-245.

The Print (2023), Jan 12 https://theprint.in/health/primary-health-centres-see-over-50-increase-in-doctors-but-shortfall-of-80-specialists-at-chcs/1310905/

Census of India. (2011). Rural Health Infrastructure and Demographic Data. Retrieved from https://censusindia.gov.in/

Indian Council of Medical Research. (2019). Health and Demographic Surveillance System in Rural India. Retrieved from https://www.icmr.nic.in/

1.10 ANSWERS TO CHECK YOUR PROGRESS EXERCISES

Check Your Progress 1

1) **Your answer should include the following points:**

   The rural healthcare system after the implementation of Ayushman Bharat Programme is characterized by:

   - Strengthening of sub-centres and PHCs by converting them into Health and Wellness Centres.
   - The sub-centre serves as the initial point of contact between the primary health centre system and the community.
   - The primary health centre serves as the initial point of contact between the village community and the medical officer.
   - The community healthcare is established and sustained by the state government through programmes like Minimum Needs Programme.

2) **Your answer should include the following points:**

   The challenges and limitations of rural health system encompass:

   - Inadequate healthcare facilities
   - Lack of basic amenities
   - Shortage healthcare personnel
   - Limited medical equipment and technology
   - Poor transportation and connectivity
   - Lack of awareness and education
   - Natural disasters and climate change
   - Disaster burden and epidemic

Check Your Progress 2

1) **Your answer include the following points:**

   The components of emergency management in rural areas include:

- Emergency Preparedness
- Emergency Response
- Recovery

2) **Your answer should include the following points:**

The strategies for improving rural emergency management are:

- Community-based Preparedness Programmes
- Early warning systems
- Infrastructure development
- Capacity building for local authorities
- Healthcare Infrastructure and mobile medical units
- Livelihood diversification and economic resilience
- Education and training programmes
- Public-private partnerships
- Research and data analysis