INTEGRATED NATIONAL SEARCH & RESCUE (INSaR)

CONCEPT PAPER

NATIONAL DISASTER MANAGEMENT AUTHORITY

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CONCEPT PAPER
INTEGRATION OF PROPOSED NATIONAL SEARCH AND RESCUE SYSTEM FOR PAKISTAN AND NATIONAL CERTIFICATION PROCESS (NCP)

Introduction

1. Modern, well-equipped and inclusive search and rescue (SAR) teams play a crucial role in safeguarding lives and minimizing the impact of disasters. Significance lies in their ability to respond swiftly and effectively to various emergencies, ranging from natural disasters like earthquakes and floods to man-made disasters. Furnished with modern equipment, gadgetry and specialized training, SAR teams can navigate challenging terrains, locate survivors and provide timely assistance; rescuing the affected and transporting them to safer areas. In the aftermath of natural disasters, every moment counts and the efficiency of SAR teams is pivotal in ensuring the survival of those in distress.

2. Modern SAR teams comprise integration of cutting-edge technology, including drones / aviation lift capacities, satellite imagery and advanced communication systems. These tools enhance the teams' ability to survey large areas quickly, identify potential hazards and coordinate their efforts efficiently. The process of locating individuals who are missing or trapped during or after a disaster is referred to as ***"Search"***. It involves methodical efforts by trained teams utilizing a variety of techniques, including drones, search dogs and ground searches. Additionally, advancements in technology, such as infrared imaging and GPS, significantly enhance the speed and accuracy of affected location. The primary objective is to find and rescue those in danger as swiftly as possible to preserve lives (Mishra et al., 2020).

3. ***"Rescue"*** refers to the safe extraction and prompt assistance of individuals who are in danger or trapped as a result of a disaster. To extricate people, skilled teams must promptly navigate hazardous conditions and utilize sophisticated equipment. In order to minimize the casualties, rescue operations must be swift and well-coordinated. Primary objective of the rescue is to protect the affected parties and save lives. In addition, inclusivity is essential to enhancing the effectiveness of SAR operations. Diverse SAR teams, comprising professionals with a broad spectrum of skills and backgrounds, are better equipped to address the varied needs of the population during emergencies. This inclusivity is not merely about representation; it ensures that responses are culturally sensitive and considerate of specific vulnerabilities faced by different groups, including individuals with disabilities or special needs. By integrating diverse perspectives and expertise, inclusive SAR teams can manage complex and challenging situations more effectively. Moreover, this approach contributes to economy of effort and efficiency by optimizing resource allocation and minimizing duplication of efforts, thereby enhancing overall operational effectiveness. Another

crucial aspect of SAR is its social dimension. SAR extends beyond organizational activities to encompass the social and collective behavior of society. Involvement of broader community, including volunteers and humanitarian organizations, is vital for delivering an immediate and effective response to disasters and emergencies. This societal engagement is universally recognized as essential for ensuring a timely and appropriate reaction to any crisis.

4. In the context of Pakistan, the country's extremely diverse landscape ranging from snow-capped and rugged mountains in the north, to riverine plains in the center, vast deserts in the south and southeast and a coastal line exposes it to a multitude of natural hazards, including geological and hydro-meteorological risks. Additionally, anthropogenic emergencies and disasters further complicate the challenges faced by rescuers. These disasters are omnipresent and cannot be prevented, especially natural ones, which are increasingly erratic in nature, with greater intensity and frequency. This poses a significant challenge for disaster management (DM) responders, partners and stakeholders. In light of these varied challenges, there is a clear need for specialized teams capable of conducting SAR operations across diverse geographical areas and handling different types of disasters.

5. In Pakistan, huge potential exists in public and non-public domains that is capable to react in a disastrous situation as immediate help on voluntary basis. Rescue 1122, USAR teams, fire brigade, Pakistan Red Crescent Society, number of NGOs e.g. Al-Khidmat Foundation, Agha Khan Foundation, Edhi Foundation, Chhipa and Pakistan Boy Scouts / Girl Guides etc, are among the prominent entities spread across Pakistan. In addition to these, Pakistan Armed Forces, Pakistan Coast Guards, Pakistan Maritime Security Agency and Civil Armed Forces are also available and are equipped with adequate SAR components. Most of these entities, especially the private organizations, operate independently or join the SAR efforts at a rather later stage. Endeavors of all these entities can be harnessed and tapped to accrue dividends of their reach, foot print, expertise and resources. Hence, there is a requirement to put in place an institutionalized mechanism and arrangement to channel the vast potential of SAR entities in Pakistan to accrue due dividends. The National Disaster Management Authority (NDMA) has recently initiated and put in place a mechanism of resource mapping and to record various categories of HR trained by NGOs and UN organizations as trained individuals, having expertise on river rescues, cable chairs rescue, landslides help, mountain expedition safety, medical evacuation etc, for response in disasters as immediate responders.

Aim

6. To propose establishment of area specific and contingency based SAR teams; embedded with local resource, humanitarian partners / philanthropists with futuristic outlook - organized, trained, equipped and structured for an effective, efficient and timely response.

Construct

7. Paper has been structured as under: -

   a. Part - 1: Overview of SAR in Pakistan.

   b. Part - 2: Contemporary Models of SAR.

   c. Part - 3: Proposed SAR System.

   d. Part - 4: National SAR Certification Framework.

PART - 1: Overview of SAR in Pakistan
Evolution of Urban Search and Rescue (USAR) in Pakistan

8. In aftermath of 2005 earthquake, it became evident that Pakistan lacked the capacity to conduct organized SAR operations. In response, NDMA initiated the establishment of six Urban Search and Rescue (USAR) teams with the support of international donors, as per details in **Annex-A**. These teams were centrally equipped and trained in Islamabad before being assigned to various organizations for administrative control and employment.

SAR Landscape of Pakistan

9. The search and rescue landscape of Pakistan is multifaceted and evolving, shaped by the country's unique geographical challenges and frequent natural disasters, including earthquakes, floods and landslides. NDMA serves as the lead governmental body responsible for managing and coordinating the disaster response efforts including initial search and rescue. It collaborates with various stakeholders, including federal ministries / departments, provincial disaster management authorities, the Pakistan Armed Forces, law enforcement agencies and host of governmental / non-governmental entities to ensure timely and efficient response rescue operations. Armed Forces, renowned for their rapid deployment capabilities, often take a lead role in emergency situations, utilizing the trained personnel and logistical resources to reach affected areas quickly.

10. In addition to government agencies, numerous non-governmental organizations (NGOs) and community groups play a crucial role in enhancing search and rescue capabilities. These organizations focus on training volunteers, conducting awareness campaigns and providing necessary equipment. Local communities also contribute significantly, often acting as first responders in emergencies, leveraging their knowledge of the terrain. However, despite facing challenges such as limited infrastructure, funding and accessibility to remote regions, the ongoing efforts to improve SAR training, resource allocation and inter-agency collaboration are gradually enhancing the overall effectiveness of search and rescue operations in Pakistan, ultimately saving lives and reducing disaster impact. A detailed comparative overview of the major organizations contributing to the national SAR landscape is provided in **Annex-B**.

Public Sector Organizations

11. **Establishment of Rescue Services**. The establishment of organized rescue services in Pakistan started with the introduction of Rescue 1122, a pilot project, in Punjab in 2004. The service was formally instituted by the Emergency Service Act of 2006, which provided the framework for an organized emergency response system. Rescue 1122 has expanded tremendously over the years and now offers a variety of services including firefighting, water rescue, and community safety operations. Except for the Islamabad Capital Territory (ICT),

all federating units have embraced this system. However, Metropolitan Corporation Islamabad's (MCI) Urban Search and Rescue (USAR) squad, the Fire Brigade, and the Capital Development Authority's (CDA) Directorate of Environment offer emergency response services in ICT. Additionally, the Sindh government established its own team of Rescue 1122 in 2021, according to the Sindh Emergency Rescue Service Act. Sindh's Rescue 1122 provides expert training for responding to floods, fire disasters, and collapse of buildings. Moreover, Khyber Pakhtunkhwa (KP) set up Rescue 1122 in 2010, based on the model of the successful Punjab province. Furthermore, the Medical Emergency Response Centers (MERC 1122) in Baluchistan were established in 2021 as a distinct emergency medical service that operates autonomously while being integrated with the larger Rescue 1122 structure. Furthermore, The State Disaster Management Authority (SDMA), established under Pakistan's National Disaster Management Act of 2010, serves as the provincial equivalent of the National Disaster Management Authority (NDMA) and is in charge of overseeing disaster-related operations in AJK. The GB Emergency Service (Rescue 1122) was formally established in 2022 to improve disaster response capabilities in the area. This service was based on Punjab's Rescue 1122 structure and customized to handle the country's specific geography and environmental threats.

12. **Urban Search and Rescue Teams - Overview and Current Status**. Urban Search and Rescue (USAR) were established, equipped and trained by NDMA in 2007 and subsequently handed over to different departments to respond to emergencies, especially in urban areas where there is a significant risk of buildings and other structures collapsing. Particularly in the wake of earthquakes, floods and other natural or man-made disasters, these teams are essential to disaster response. However, over a period of time, performance of these teams, barring few, has been seriously affected due to deficiencies in trained human resource, equipment and training etc.

a. **Metropolitan Corporation Islamabad (MCI) USAR Team ICT**. Original team constituted 86 x members and dedicated K9 component under administrative control of ICT Administration. However, the current strength of team has reduced to 60 x members and K9 component, due to inter-departmental postings and non-existent relief / rotation mechanism. The team’s basic capability is to undertake SAR operations in collapsed buildings / rubble with the assistance of Pakistan army. Additionally, the team provides assistance in firefighting and response to any other disastrous emergency situation in ICT jurisdiction. Notably, the equipment being used today was issued / provided in 2008 without any upgradation / replacements.

b. **Pakistan Rescue Team (Punjab)**. The team consists of 91 x personnel, operates under Rescue 1122 Punjab and has successfully acquired INSARAG certification. Its core capabilities include urban SAR in collapsed structures, as well as rescue operations from depths, confined spaces, heights and water. Managed by Rescue 1122 Punjab and trained at Emergency Services Academy (ESA), the team is well-maintained in both personnel and equipment. Moreover, regular training sessions and relief rotations are conducted to ensure readiness. Classified as a medium INSARAG team, it operates without a K9 component.

c. **Karachi Metropolitan Corporation (KMC) USAR Team Karachi**. A total of 54 x members were initially trained, however the current team strength has decreased to 45. The team is also having issues with rotation and relief. The team was issued with K9 component initially but was unable to maintain it. The team's main strength is its firefighting experience and ability to operate within collapsed buildings and structures. In 2008 team's first training was imparted and in order to keep them proficient, recurring refresher sessions were held. Equipment being used today was issued / provided in 2008 without any upgradation / replacements.

d. **Sindh Emergency Rescue Service 1122 USAR Team**. Sindh Emergency Rescue Service (SERS) 1122 was established in May 2021 under Sindh Resilience Project (SRP). SERS 1122 focuses on key areas such as building collapse response, flood rescue, firefighting and disaster preparedness. The team is newly established and well equipped.

e. **USAR Team Gilgit Baltistan (GB)**. The first team, consisting of 54 x members, was trained to conduct rescue operations in collapsed structures, rubble and avalanches, as well as to carry out technical rescues, such as high-altitude rope rescues and firefighting. This team is currently stationed under Rescue 1122 in Gilgit-Baltistan, their central training took place in 2012 at the Emergency Services Academy (ESA) in Lahore, followed by a refresher course conducted in 2018. Additionally, the team received high-altitude training through an NGO. However, the team is still operating with the original set of equipment issued at the time of their formation, with no new purchases made. The team lacks K9 unit and does not adhere to a regular training schedule.

f. **USAR Team Khyber Pakhtunkhwa**. A total of 50 people were initially trained for Search and Rescue (SAR) operations in collapsed structures, rubble, firefighting, and rope rescue. The team received initial training in 2011 at the

Emergency Services Academy (ESA) in Lahore. However, the original team was later distributed across other Rescue 1122 units in Khyber Pakhtunkhwa and ceased to function as a single unit. In May 2023, a new batch of 40 individuals was trained at ESA Lahore to form a new Urban Search and Rescue (USAR) unit in Khyber Pakhtunkhwa. The team has continued to use the same equipment since its inception, with no fresh induction.

g. **USAR Team Pakistan Army**. The USAR team of Pakistan Army is composed of 56 x personnel from Army Corps of Engineers. Team received its initial training at Military College of Engineering (MCE) in Risalpur and undergoes regular relief and rotation of its members. To maintain operational readiness, annual training sessions are also conducted. However, team continues to use its originally issued equipment, which remains functional. Additionally, team is capable of conducting SAR operations in collapsed structures, rubble, firefighting and rope rescue; notably, it does not have integral K9 component.

h. **Fire Brigade**. Fire brigade department is responsible to respond to all kinds of fire incident to extinguish the fire and save precious lives and reduce the economic loss; fire fighters also assist in SAR in collapsed structures.

i. **Pakistan Civil Aviation Authority**. The core functions of authority are ‘Regulatory’, ‘Air Navigation Services’ and ‘Airport Services’. It also conducts SAR operations with support of other DM stakeholders. As per international obligations, each country is responsible for provision of SAR services under the obligations of Chicago Convention. In Pakistan, the responsibility rests with Pakistan CAA under PCAA / PAA Ordinance 2021. Notably, SAR in Pakistan is provided by interfacing civil and military capabilities.

13. **Pakistan Civil Defence**. Directorate General of Civil Defence, established under the Civil Defence Act of 1952, operates under Ministry of Interior at federal level, with the mandate to manage catastrophes in addition to wartime role. However, over time, the department operational capacity has reduced, presenting it with a limited role in disaster management despite having significant resources and a widespread presence throughout districts, with few outliers in Balochistan. The organization has institutional training structures, but these are not being optimally utilized. Staff categories of organization and training process is as under: -

a. Permanent employees posted from federal government and fall under the Ministry of Interior.

b. A pool of paid volunteers is maintained in each district, dependent upon vulnerability / risk assessment.

c. A pool of unpaid volunteers can be called upon in each district by the organization in case of any emergency. These volunteers are paid on daily basis for the duration of employment.

d. Volunteers with Pakistan Civil Defence receive regular training and can assist rescue groups in their assignments. However, their abilities are restricted to basic comprehension and execution of rescue activities, as they lack experience and specialized training.

Humanitarian / Philanthropist Organizations

14. In Pakistan, humanitarian sector organizations possess significant and diverse capabilities and extensive foot print to support SAR operations as immediate responders; major organizations include: -

a. **Pakistan Red Crescent Society (PRCS)**. Pakistan Red Crescent Society is a humanitarian organization that provides emergency medical and relief services during emergencies in Pakistan. PRCS has wide volunteer base and is present in all provinces / regions of Pakistan. Additionally, they have trained manpower, ambulances, blood banks and health units.

b. **Al-Khidmat Foundation**. The foundation works as a humanitarian entity which deals with real life problems, emergency situations and humanitarian assistance. The foundation has volunteer base of approximate 62,000 registered personnel with presence in almost all districts of the country.

c. **Aga Khan Foundation**. It is a private non-profit international development agency established in 1967. It mobilizes human, financial and technical resources to tackle challenges faced by the poorest and most marginalized communities. Its Search and Rescue Teams (SARTs) were certified and trained in collaboration with United Kingdom International Search and Rescue (UKISR) and Punjab Emergency Service. A total of 52 x trained USAR personnel are deployed, with 22 x members stationed in Karachi, 16 x in Chitral and 14 x in Gilgit.

d. **Edhi Foundation**. This is the single largest charitable foundation in Pakistan with largest ambulance service in the world, founded in 1951. Edhi provides number of services, like free shroud and burial services to unclaimed dead bodies, shelter for disabled and needy people, orphans and abandoned children, provision of free hospital and dispensaries in highly neglected area, rehabilitation of drug addicts, medical care to the needy and more. Furthermore, their capabilities include, ambulance services, emergency medical services, patient transfer service, boat rescue, mobile mortuary, free

clinics, laboratory service, baby adoption services, burial / graveyard services and kitchens.

e. **Chippa**. It is a non-profit welfare organization operating in Pakistan which is equipped with a fleet of ambulances, paramedics and equipped with first aid box & oxygen cylinder. Additionally, Chippa runs ambulance services, free meals programs, morgue, new born home and women shelter home.

f. **Pakistan Boy Scouts / Girl Guides**. Boy Scouts and Girl Guides are the largest volunteer organizations in Pakistan, with hige membership base across Pakistan. They are regularly trained in technical skills and training to assist professional rescuers in undertaking SAR operations.

Armed Forces / Civil Armed Forces

15. Pakistan Armed Forces offer extensive SAR capabilities, including medical evacuations and high-altitude rescues, supported by significant aviation assets for rapid deployment. Pakistan Maritime Security Agency (PMSA) manages emergencies such as shipwrecks and oil spills, utilizing advanced equipment and coordinating with international partners while Pakistan Coast Guards effectively protects coastal areas and conduct maritime SAR missions. Additionally, Civil Armed Forces, including Pakistan Rangers and Frontier Corps, play a vital role in maintaining security and providing emergency relief across various regions of the country.

a. **Pakistan Armed Forces**. Armed Forces have huge trained and disciplined work force that can be used in SAR operations along with aviation assets. The Armed Forces can promptly deploy SAR teams to remote, hard-to-reach areas as well as cities. Moreover, their expertise includes medical evacuations, swift water rescue and high-altitude operations. Additionally, Armed Forces units frequently collaborate with other governmental agencies and international organizations, enhancing Pakistan's overall readiness to handle emergencies effectively.

b. **Pakistan Maritime Security Agency (PMSA)**. Pakistan Maritime Security Agency (PMSA) has significant SAR capabilities essential for safeguarding lives and ensuring maritime safety within Pakistan's territorial waters and exclusive economic zone. With a trained team and a fleet of vessels and aircrafts, PMSA can swiftly respond to maritime emergencies such as shipwrecks, oil spills and distress calls. Additionally, their expertise includes medical evacuations, firefighting and disaster response at sea. Additionally, PMSA collaborates closely with other maritime agencies and international

partners to enhance its SAR capabilities and contribute to regional maritime security.

c. **Pakistan Coast Guards**. Pakistan Coast Guards is entrusted with safeguarding Pakistan's coastal areas and maritime interests. It is equipped with trained personnel and a fleet of vessels and aircrafts and can respond swiftly and effectively to maritime emergencies. Its personnel are proficient in conducting SAR missions, medical evacuations operations etc.

d. **Civil Armed Forces**. Pakistan's Civil Armed Forces, including Pakistan Rangers and Frontier Corps, play a vital role in maintaining security and providing emergency relief across various regions of the country. These forces have requisite capacities to respond to emergencies and assist in disaster management efforts.

(1) **Pakistan Rangers**. Pakistan Rangers is primarily responsible for security, law and order along Pakistan’s eastern borders. It is also entrusted with the security of important installations and national assets in various cities of Sindh, Punjab, Islamabad and Gilgit Baltistan. Moreover, Rangers has traditionally contributed towards maintaining law and order. It also assists in emergency situation like relief assistance in flood, provide free medical camps etc.

(2) **Frontier Corps**. Frontier Corps (FC) is primarily responsible for security in Khyber Pakhtunkhwa and Baluchistan. In addition, FC has traditionally contributed towards maintaining law and order. It also assists in emergency situation like relief assistance in flood, provide free medical camps etc.

Analysis of SAR Landscape in Pakistan

16. Search and rescue landscape in Pakistan is characterized by a complex interplay of natural disasters, urban challenges and the evolving role of various agencies. Given its geographical diversity, Pakistan frequently faces earthquakes, floods and landslides, necessitating a robust and efficient response framework. This analysis explores the current state of search and rescue operations, highlighting the strengths and weaknesses of both governmental and non-governmental organizations involved. It also examines the impact of community engagement, technological advancements and international collaborations in enhancing response capabilities. Understanding these dynamics is crucial for improving preparedness and effectiveness in saving lives during emergencies in Pakistan.

17. **Strengths**. Pakistan's emergency response system stands out for many major features that considerably improve its ability to handle and respond to catastrophes with efficiency and effectiveness.

a. **Experienced Personnel**. Pakistan has a number of trained professionals in disaster management, including military personnel, rescue teams and volunteers from various NGOs, who have experience in conducting SAR operations. If optimally leveraged, they can significantly enhance SAR capacities of Pakistan.

b. **Military Resources**. Pakistan Armed Forces and Pakistan Maritime Security Agency (PMSA), contribute significantly towards disaster response; these organizations can swiftly deploy to affected areas, even inaccessible and hard-to-reach terrain.

c. **Community Involvement**. Local communities are critical strength in SAR operations, with immediate response following disasters. With integration and synergy, grassroots participation can significantly enhance the effectiveness and efficacy of rescue missions.

d. **Disaster Response Framework**. Disaster response system is founded on a clearly established institutional framework headed by the National Disaster Management Authority (NDMA), which functions in coordination with provincial, district, and local disaster management authorities. The multi-level framework ensures an efficient chain of command, enabling swift decision-making and efficient mobilization of resources in times of crisis. The system is underpinned by an effective legislative framework, the National Disaster Management Act, which ensures accountability, resource allocation and formulation of comprehensive disaster preparedness and recovery plans.

e. **Early Warnings**. Pakistan leverages advanced technologies such as Geographic Information Systems (GIS), satellite imagery and early warning systems that enhance readiness and response capacity. These technologies enable accurate risk assessment, early alerts and efficient coordination.

f. **International Collaboration**. Pakistan continually interacts with foreign organizations, humanitarian organizations and SAR networks, leveraging international knowledge to improve response strategies.

g. **Training and Capacity Building**. Different DM authorities regularly conduct trainings and capacity building workshops with the collaboration of various organizations, including NGOs and international agencies. These training programs strengthen the preparedness and response for disaster management.

h. **Public Awareness and Preparedness**. There is more focus being put on public awareness and disaster readiness, equipping communities with the knowledge and skills necessary to respond effectively to disasters and assist in SAR efforts.

i. **Volunteer Networks**. A strong network of volunteers and non-governmental organizations exists in Pakistan, which can be structured into a synergized response capability.

18. **Limitations**

a. **Limited Updated Resources**. Despite having some trained personnel and equipment, the overall resources available for SAR operations is inadequate, particularly in terms of advanced technology, updated equipment, vehicles and medical supplies.

b. **Coordination Issues**. Effective SAR operations require seamless coordination among various agencies, including military, civil and non-governmental organizations. A lack of clear communication and coordination often leads to inefficiencies and delays in response.

c. **Geographical Challenges**. The diverse and rugged terrain of Pakistan, especially in mountainous regions, complicates search and rescue efforts, making access difficult and time-consuming. Moreover, the diverse nature of terrain possesses diverse nature challenges and expertise requirements to respond to disasters across width and breadth of Pakistan.

d. **Funding Constraints**. Limited budget allocations for disaster management and emergency response restricts the capacity to develop and maintain adequate SAR resources and infrastructure.

e. **Dependence on International Assistance**. In large-scale disasters, Pakistan often relies on international aid and support, which can lead to delays in response while waiting for external resources to arrive.

f. **Infrastructure Gaps**. Inadequate infrastructure in vulnerable areas, such as weak road networks and communication systems, can cause delays in rescue and relief activities.

g. **Capacity and Coordination Challenges**. Current SAR framework is hindered by capacity constraints, a disjointed approach and lack of coordination among various entities. This fragmentation results in an ineffective response to emergencies and a resistance to adopting necessary changes.

h. **Inadequate Response to Emerging Threats**. The system is ill-equipped to address the escalating frequency, intensity and spatial distribution of extreme weather events and human-induced disasters. Existing resources and strategies are insufficient to cope with these growing challenges.

i. **Urbanization and Population Growth**. Rapid urbanization and high population density complicate emergency response, particularly in large cities.

j. **Lack of Ownership and Resource Management**. Baring few, there is a general lack of ownership of SAR organizations by their parent departments. This leads to resource deficiencies, including outdated equipment and insufficient training techniques, which further undermine the effectiveness of SAR operations.

k. **Untapped Volunteer and Humanitarian Resources**. The vast network of volunteers, humanitarian organizations and philanthropists remains underutilized and disjointed. Even when engaged, these resources lack the necessary coordination and synergy to maximize their impact.

l. **Absence of Unified Training and Regulation**. Training and deployment of SAR teams are not governed by a cohesive national regulatory framework, resulting in inconsistent standards and practices across the sector.

19. **Common Challenges to USAR Teams**. Urban-centric orientation of disaster response teams presents considerable accessibility issues during emergencies, particularly in places that are at danger of becoming isolated. This centralized strategy frequently causes response delays, especially during the critical golden hours after a calamity. Such delays can significantly reduce the efficiency of rescue operations and exacerbate the suffering of affected populations.

a. Communication gaps / interoperability issues with other USAR / SAR elements in the country.

b. Lack of geo-based vulnerability training and equipment.

c. Limited / no engagement with local communities / volunteers.

d. No capacity to handle matters related to HAZMAT.

e. No USAR team exists in Balochistan to cope with any eventuality.

f. Outdated equipment compromising the ability to swiftly and safely execute SAR missions.

g. Lack of unified training for USAR teams.

h. Non-availability of aviation assets - request / coordination done upon onset of disaster.

20. To address these limitations, integration of SAR potential into a unified SAR framework is considered essential. Such integration would ensure a cohesive approach to disaster management, streamline coordination among various entities, optimize resource utilization and establish a standardized training and regulatory mechanism. This would significantly enhance Pakistan’s capacity to effectively manage and respond to disasters, ultimately improving overall resilience and efficiency in emergency situations.

PART - 2: Contemporary Models of SAR

21. Global practice of SAR is mostly unified under the INSARAG platform of UN. The member countries follow basic guidelines for training and qualifications, hence creating an international standard of USAR teams.

22. **INSARAG**. International Search and Rescue Advisory Group (INSARAG) framework is a set of guidelines for development and operation of USAR teams. It constitutes a global network of more than 90 countries and organizations under the umbrella of UN. The framework standardizes five basic components of USAR capacity (Search, Technical Rescue, Medical, Management and Logistics) and can range from community-based first responders to the development of a Heavy USAR team. INSARAG guidelines are the primary framework used by all member states for maintaining USAR teams and developing residual capacity based on respective vulnerabilities.

23. **Contemporary Models**

a. **USA**. Federal Emergency Management Authority Agency (FEMA) manages efforts at national level though National Urban Search & Rescue (US&R) Response System. The teams are mobilized in case a request for assistance is generated by a state. Equipped with latest equipment to meet geo-based vulnerabilities, these teams can augment efforts of local rescue teams. Core capabilities of US&R include CBRNE, crowd control during disaster, SAR in collapsed structure, structural stabilization of damaged buildings, medical treatment, HAZMAT response and water rescue. Community rescue teams / volunteers are called upon to assist the specialized teams during any large-scale operation. There are 28 task forces in the US, each sponsored by a local agency. In the event of a disaster in the US, the nearest three task forces are activated and sent to the site of the disaster. If the situation is large enough, additional teams will be activated. Major aspects are as under: -

(1) FEMA's role in SAR operations primarily involves coordination, support and resource deployment. FEMA works closely with state emergency management agencies to coordinate SAR efforts and allocate resources effectively.

(2) FEMA maintains a network of USAR teams strategically located across the country. These task forces consist of trained personnel, including firefighters, paramedics, engineers and SAR specialists. They are equipped with specialized equipment and resources to respond to structural collapses and other urban SAR incidents.

(3) When a major disaster occurs, the affected state's governor can request federal assistance, including FEMA's USAR Task Forces. FEMA can deploy these teams to the disaster area to conduct SAR operations as needed.

(4) FEMA collaborates with other federal agencies, such as the US Coast Guard, US Army Corps of Engineers and the National Guard to facilitate SAR operations. Additionally, FEMA coordinates with local first responders, law enforcement agencies and volunteer organizations to ensure a cohesive response.

(5) FEMA conducts regular trainings and exercises to ensure readiness of its USAR task forces and other SAR assets. These exercises simulate various disaster scenarios to enhance response capabilities.

(6) United States Coast Guard (USCG) is the lead federal agency responsible for maritime SAR operations. It operates a network of Sector Command Centers and Air Stations along the coastlines and major inland waterways. USCG also collaborates with other federal, state and local agencies for land-based SAR operations.

(7) US Coastal Guard (USCG) maintains a fleet of vessels and aircrafts equipped for maritime SAR missions. These assets are stationed around the country to respond to emergencies at sea. They are equipped with advanced technology and communication systems to coordinate and execute SAR operations. Each state's National Guard has a role in SAR operations within their state's borders. Additionally, the military, including USAF, US Army and US Navy can provide support for SAR missions, especially in disaster relief scenarios.

(8) Responsibility for land-based SAR operations falls primarily on local and state authorities, such as county sheriff's offices and state police. US National Park Service and US Forest Service also play significant roles in wilderness SAR operations.

(9) Numerous volunteer organizations, such as the Civil Air Patrol (CAP) and mountain rescue teams, provide essential support for land-based SAR operations. These organizations often work in coordination with government agencies.

b. **Canada**. An extensive SAR system is established in Canada due to its vast geographic size, challenging terrain and extensive coastline. SAR operations in Canada are primarily coordinated by the Canadian Armed Forces (CAF) and the Canadian Coast Guard (CCG) with support from various government agencies, volunteer organizations and industry partners. Major aspects are as under: -

(1) Joint Rescue Coordination Centers (JRCCs) across Canada serve as the central hubs for coordinating SAR efforts. These are staffed by personnel from CAF, CCG and Royal Canadian Mounted Police (RCMP). These centers are responsible for planning and executing SAR missions.

(2) Canadian Coast Guard plays a pivotal role in maritime SAR along Canada's coastline. They operate a fleet of vessels and aircrafts equipped for SAR missions. CCG also works in conjunction with the Royal Canadian Air Force (RCAF) for air-sea SAR operations, RCAF operates various aircrafts, including CC-130 Hercules and CH-149 Cormorant helicopters, specially equipped for SAR missions. These aircraft are capable of conducting long-range search and medical evacuations.

(3) Ground SAR is facilitated by volunteer organizations like Civil Air Search and Rescue Association (CASARA), Canadian Coast Guard Auxiliary (CCGA) and local SAR teams. These groups often assist in locating and assisting missing persons in wilderness areas. Canada continually invests in SAR technology and equipment, including advanced sensors, communication systems and night vision capabilities. These technologies enhance SAR effectiveness in challenging conditions. Canada fosters cooperation between various government agencies, including CAF, CCG, RCMP and volunteer organizations to ensure a coordinated and efficient SAR response.

c. **Italy**. Italian Civil Protection Department (DPC) framework is used to supplement the INSARAG framework. DPC framework sets out additional requirements for Italian USAR teams, such as the need to be able to respond to a variety of disasters, including earthquakes and floods. Core capabilities include SAR teams in collapsed structure, structural stabilization of damaged buildings, medical treatment, hazmat response, rope rescue, confined space rescue and logistical support.

d. **India**. National Disaster Response Force (NDRF) was constituted for the purpose of specialized response for natural and man-made disasters. At present, NDRF consists of 16 x battalions from the Border Security Forces (BSF), Central Industrial Security Force (CISF), Central Reserve Police Force (CRPF), Indo Tibetan Border Police (ITBP), Sashastra Seema Bal (SSB) and Assam Rifles. Each battalion has self-contained specialist SAR teams of 45 x personnel including engineers, technicians, electricians, dog squads and medical / paramedics. All the 16 x teams have been equipped and trained to respond to any natural as well as man-made disaster. Battalions are also trained and equipped for response during chemical, biological, radiological and nuclear (CBRN) emergencies.

e. **United Kingdom**. UK National Urban Search and Rescue Response System (UK&R Response System) framework is used to supplement the INSARAG framework. UK&R Response System framework sets out additional requirements for UK USAR teams, such as the need to be able to respond to a wider range of disasters, including chemical spills and terrorist attacks. Core capabilities include CBRN incidents, terrorist attack response, trained SAR teams in collapsed structure, structural stabilization of damaged buildings, medical treatment, hazmat response, rope rescue, confined space rescue and logistical support.

24. **Analysis of Contemporary Models / Best Practices**. Effective SAR operations hinge on standardized training and rapid deployment capabilities, ensuring teams are well-prepared and able to respond swiftly to disasters. Collaboration among SAR teams, volunteers and international partners enhances coordination, while specialized skills and equipment allow for targeted responses to various emergencies. Empowering local organizations and adhering to INSARAG guidelines further strengthen both national and international rescue efforts.

a. **Standardized Training and Evaluation Mechanism**. Establishment of standardized training programs and certification processes ensuring that responders are adequately trained and qualified and follow similar search techniques, medical care, communication, incident management and specialized equipment operation.

b. **Cross-training and Inter-operability**. Countries across the world, foster collaboration among SAR and USAR teams, government agencies, non-governmental organizations (NGOs) and international partners. It promotes

information sharing and coordination through local, national and international coordination centers.

c. **Rapid Deployment**. USAR teams are capable of rapid deployment and can be transported to the affected area to start operations immediately because of standardized mechanisms and practices, hence saving lives during the critical initial hours of any emergency / disaster.

d. **Specialized Skills**. USAR teams are highly professional and have requisite skills to deal with any emergency situation or disaster while ensuring safety of team itself.

e. **Team Work and Communication**. Team work and effective communication are the strength of USAR teams, which enable them to operate across the language barriers and diverse environment while following standard protocols and practices.

f. **Specialized Equipment**. Most of the countries have SAR teams that are well equipped and can quickly adapt to meet the needs of any disaster situation utilizing the latest technology / tools to assist in completion of the assigned task.

g. **Geo Based Hazards**. In addition to the basic skill sets required to operate under INSARAG platform, the USAR teams are also getting requisite training for meeting respective geo-based vulnerabilities.

h. **Community / Volunteer Engagement**. Rescue efforts heavily rely on community / volunteer engagement in respective regions. These are incorporated into overall ambit of SAR operations based on their training and capability to operate with the specialized teams. Other important aspects of volunteer involvement are as under: -

(1) Volunteer and emergent group response is of critical importance.

(2) Volunteers and emergent groups accomplish most initial SAR activities.

(3) Since most survivors are rescued within the first 2 days, this emergent and volunteer activity is critically important to rescue effort, especially because buried and entrapped victims are likely to suffer from injuries that require rapid life-sustaining intervention including compromised access to air, severe loss of blood and body fluid, crushing injury and internal damage to essential organ systems.

i. **Specialized Training**. Additional framework for specialized training and responding to geo-based vulnerabilities is regulated through a central system.

j. **Geo-based Pre-positioning of SAR Teams**. Geo-based pre-positioning of SAR teams involves strategically equipping and stationing these teams in areas most susceptible to specific vulnerabilities. This approach ensures that SAR teams are readily available and adequately prepared to address localized risks and emergencies. This proactive measure facilitates timely interventions and optimizes resource deployment in critical areas.

k. **Employment for International Rescue Missions Operations**. INSARAG guidelines / standards are enforced by all member states hence enabling their teams to get employed in international rescue missions / operations.

l. **Coordination of Rescue Operations under Fire Services**. Most models exercise execution of rescue operations under respective fire brigades / services and extension of the department to regulate further needs.

m. **Resource Disparity in INSARAG Teams**. INSARAG teams rely on respective states for raising, funding and sustenance of the teams, as a result of there is a resource disparity among the teams.

n. **Effective Utilization of Diverse SAR Resources**. SAR activities are undertaken by a number of different types of actors including unaffiliated volunteers, organizational volunteers and formal organizations. Therefore, measures need to be taken to most effectively utilize all of these resources.

o. **Technical Proficiency of Formal Organizations**. The formal organizations are the most technically proficient but, they are often hampered by their geographical distance from disaster sites.

p. **Knowledge About Local Culture**. It is important to recognize the importance of local cultural knowledge in helping to predict locations of victims and to assist in searches.

PART - 3: Proposed INSaR System for Pakistan

Need for a New SAR System

25. NDMA's mission is to create a safer and more catastrophe-resilient Pakistan by building a comprehensive, all-hazard, proactive, anticipatory and technology-driven disaster management system. To actualize this vision, besides conducting risk assessments, enhancing preparedness through better collaboration, capacity building and provision of technical support, synergizing the response capacities through a timely, efficient and specialist response in case of disasters is also considered necessary.

26. Existing SAR system of Pakistan in spite of its vast foot print, potential and resource availability, lacks the capacity to meet challenges posed by ever increasing and erratic climatic disasters and specialist response at various levels. The system is afflicted by capability issues, disjointed and orthodox approach and equipment, lack of coordination, inertia to dictates of change. Hence, this system has no wherewithal to meet challenges posed by ever increase in frequency, intensity, duration and spatial distribution of range of extreme weather events as well as human-induced disasters; resulting in application of Armed Forces assets / resources right at the outset. Therefore, establishment of dedicated and specialized response teams incorporating the complete SAR landscape at national level is not only a necessity rather a compulsion. Other aspects necessitating a new SAR system for Pakistan are as under: -

a. **Geographical Diversity**. Altering landscape across the country poses very specific challenges / threats for rescuers / responders in the regions.

b. **Extreme Climatic Events**. Climate change has increased the vulnerability level of regional threats because of abrupt and extreme weather systems developing over a very short period of time, leaving the regions prone to increased risk of losses and damages.

c. **Paucity of Time During Emergency**. In any emergent situation, losses and damages can be greatly minimized by employing rescuers in time. Hence, if there are rescue teams already pre-positioned based on their specialized skills to meet any emergent situation their employment can be done in very short time.

d. **Eliminating the Need for Acclimatization**. Rescuers, if stationed / employed based on geographic vulnerabilities, would not require any need for acclimatization.

e. **Standardizing Specialized Training / Equipment**. Variations in training regimes and equipment sets held with responders make integrated operations difficult.

f. **Non-utilization of true Potential of Humanitarian / Welfare Organizations**. A number of SAR organizations operate in isolation, many times working in same areas as other departments but due to lack of communication and integration the desired impact at national level is found missing.

g. **Non-Engagement of Communities / Volunteers**. In case of any emergency, the locals / volunteers are often the first to respond but due to lack of training and awareness their potential is not properly utilized hence making the task of specialized teams difficult. A trained community can create a working space for specialized teams to arrive at and have a head-start in conducting their operations. Recently, government has introduced the concept of “National Volunteer Corps” (NVC), as an initiative to use community volunteers to improve preparedness and response in a variety of areas, including education, disaster management, environmental awareness, financial and economic inclusion and building relationships with local and international stakeholders. Volunteers, enabled with necessary skills and knowledge through a systematic certification procedure, can considerably supplement formal SAR operations, reducing reaction times and mitigating the impact of disasters more efficiently. Integration of SAR and NVC project (when it reaches at maturity level) will establish a symbiotic relationship between national standards and local capabilities, ultimately seeking to save lives and limit damage during emergency situations. NDMA, through its Plans Wing, envisions to harness this concept by offering volunteers with extensive training and capacity-building opportunities. These training courses will be aimed to improve volunteers' competence in numerous crucial areas.

h. **Lack of Legal / Codal Cover for Integrated Operations**. While conducting integrated operations the USAR / SAR teams and volunteers face issues of legal cover and hence remain under-utilized even, in case of national emergency. New SAR system will provide a federally initiated mechanism / framework to enable integrated employment and maximum utilization of available resources.

Broad Contours of Proposed System

27. "Integrated National Search & Rescue" (INSaR), will enhance coordination among all SAR stakeholders by restructuring and strengthening existing teams and integrating INGOs and local volunteers and will be seen as Pakistan’s national trained first tier response potential available to DDMAs and provinces. It will also consolidate various regional teams, including Rescue 1122 etc.

28. By incorporating local and national resources under a unified framework, INSaR aims to streamline response efforts and reduce reliance on the Armed Forces, while still utilizing their support for large-scale disasters. Broad governing contours of the proposed concept are covered in ensuing paras.

a. INSaR will not be a parallel system to 1122, but rather an important complement that provides nationally recognized regional and local support centers.

b. INSaR will act as a platform for coordinated response by all SAR stakeholders / partners.

c. INSaR teams will be established by restructuring / strengthening existing USAR teams, where available (strength enhanced of each team along with equipment and trained in specialized operations as per requirement of province / region). Punjab Emergency Service (Rescue 1122), Khyber Pakhtunkhwa Emergency Rescue Service (Rescue 1122), Sindh Emergency Rescue Service (Rescue 1122), and Balochistan Emergency Rescue Service (Rescue 1122) will transition to INSaR teams.

d. All existing potential in various zones will be mapped, identified, approached through regional and provincial forums to get connected with NDMA.

e. Follow on reserve responders (military and federal services) will be kept in coordination / observation status to compliment any shortfalls.

f. NDMA will coordinate employment, overseas and inter province, and capacity building of INSaR.

g. Plans Wing of NDMA will combine and manage existing training teams of NDMA (i.e. ex NIDM, DRR / GCC etc) for capacity building activities of INSaR in addition to other routine training activities planned by NDMA.

h. Trainings will be disasters specific to various areas and will be conducted as per seasonal disaster contingencies (summers and winters DM calendar for all provinces).

i. INGOs and philanthropist organizations in the region will be integrated into the INSaR system.

j. In addition to dedicated human resource / experts, these teams will also include and incorporate local volunteers, humanitarian originations, Boy Scouts / Girl Guides, governmental SAR departments falling in respective areas of responsibility in an institutionalized, cohesive and coordinated manner. All these partners / entities will remain under respective existing administrative controls but will be employed in an integrated and coordinated manner.

k. Where required, assistance from Armed Forces and LEAs will also be sought. Pre-disaster coordination, data management, resource mapping, rehearsals, training etc will be the responsibility of respective INSaR teams.

l. Constitution of INSaR teams will not preclude the dependance on Pakistan Armed Forces for disaster response. Although, in massive scale disasters their assistance will be requested but not as first responders.

29. Given the current landscape of SAR operations in Pakistan, need for INSaR teams, integrated with local capacities becomes increasingly apparent. Such integration would enable a more systematic approach to disaster response, leveraging the diverse capabilities and resources of existing organizations through pre-disaster coordination and strategic alignment. By establishing INSaR teams, Pakistan can enhance operational efficiency, improve response times and ensure a more organized and effective approach to managing emergencies. This integrated framework will also optimize resource utilization and minimize redundancies, ultimately strengthening the nation's overall capacity to handle disasters in a timely and coordinated manner.

Types of INSaR Teams

30. As per the proposed INSaR concept, teams with capability to react swiftly and quickly for employment all over Pakistan or abroad are proposed, as under: -

a. Mountain rescue.

b. Water rescue (riverine and deep sea).

c. Collapsed structure rescue.

d. Urban rescue.

e. Desert rescue.

f. Regional team of Sindh will not have mountain rescue component but instead would have enhanced riverine / sea / marine rescue component while regional team of KP & GB will have enhanced mountain rescue component. The teams would be configured as under: -

Ser	Team	Area	Core Capabilities
(1)	INSaR - 1	KP, AJ&K and GB	Urban, Rural, Riverine, Medical evacuation, Snow and Mountain Rescue
(2)	INSaR - 2	Punjab	Urban, Rural, Riverine, Medical evacuation, Mountain and Desert Rescue,
(3)	INSaR - 3	Balochistan	Urban, Rural, Mountain, Medical evacuation and Coastal Rescue

Ser	Team	Area	Core Capabilities
(4)	INSaR - 4	Sindh	Urban, Rural, Medical evacuation, Coastal & Riverine Rescue

Transformation / Formulation of INSaR Teams

31. Existing USAR teams will be transformed / restructured into INSaR as under: -

a. **Phase - 1**

(1) Coordination with all stakeholders to form the teams in light of concept paper.

(2) Procuring the essential equipment as per given benchmark in coordination with respective province's department.

(3) Teams will be organized on INSARAG lines - a prerequisite for INSARAG certification.

(4) Capacity building of teams.

(5) Evaluation of teams in term of skill and material assets.

(6) National certification.

b. **Phase - 2**

(1) Refresher training after two years of each module.

(2) Demonstration exercises on annual basis.

(3) Submission of performance report annually to NDMA through PDMAs.

(4) INSARAG certification.

Management and Sustenance of INSaR Teams

32. INSaR system will streamline SAR operations through a dedicated INSaR Directorate, will oversee training, operational readiness and coordination aspects of INSaR. It will involve restructuring existing USAR teams, integrating local volunteers and employing a standardized team composition with specialized roles for management, search, rescue, medical, logistics and public affairs. INSaR teams will be supported by NDMA for coordination, while provinces will handle employment, training and equipment and will be prepared for both national and international deployment.

a. A dedicated INSaR Directorate under Plans Wing of NDMA has already been established. This directorate will look after and coordinate all matters related to training, operational readiness and employment of these teams.

b. Employment, training / equipping and maintenance will primarily the responsibility of respective provinces / departments with NDMA providing support for coordination. However, annual training plan for all teams will be centrally planned in coordination with all stakeholders.

Composition

33. INSaR teams will have heavy USAR team composition, structure as attached in **Annex-C**. This structure will be further strengthened by integrating personnel from provincial rescue emergency services, NGOs / INGOs, Civil Defense, volunteers and maritime and aviation emergency responders. Following provides an outline of the basic structure of an INSaR team.

a. **Management**. Core elements of this group will include a commander, coordinator, planner, liaison officer, assessment engineer, safety advisor, media handling official and a coordinator for local rescuers / volunteers.

b. **Search**. This group will have 2 x type of compositions: -

(1) Core elements of this group will include personnel for technical search, dog search and hazmat assessment while members from local rescuers / volunteers will be integrated for providing counsel based on local knowledge.

(2) In case of requirement for aerial or sea operations, a group of rescuers along with the required platform will be integrated into this team.

(3) Moreover, this team will be sufficiently equipped with all resources including K9 component etc.

c. **Rescue**. This group will have more augmentation potential from rescuers, NGOs / INGOs, volunteers and Armed Forces.

(1) Core members of this group will be for breaking, breaching, cutting, shoring, lifting, moving and extricating the victims.

(2) INSaR teams will have height rescue skills for rescue operations in high rise buildings, forest and industrial rescue skills. Additionally, they shall have expertise of hazardous materials (HAZMAT) management.

(3) Volunteers will be integrated into INSaR teams.

d. **Medical**. This group will have medical doctors and paramedics / nurses. Local rescuers / volunteers will be augmented with this team depending on the scale of the emergency. However, under INSaR platform, medical teams with sufficient medicine / equipment will be prepared / maintained in each geographic disposition.

(1) In case of requirement for aerial or sea operations, a group of rescuers along with the required platform will be integrated into this team.

(2) Air ambulance with other organizations may also be called upon to assist / augment the efforts of INSaR in case the scale of operation spreads.

e. **Logistics**. Primary role of this group will be to meet the needs of full complement of INSaR team.

(1) Core group will include a logistic manager / assistant, transport specialist, base manager / administrator and a communications expert.

(2) Local volunteers will be incorporated into this team for providing local knowledge and assisting in coordination. Parent organizations / NGOs will ensure that they integrate people who are fully equipped with providing the required resources to sustain the operations.

f. **Public Affairs**. Primary function of this group will be pre-disaster coordination, data management and resource mapping of volunteers, humanitarian organizations, philanthropists and coordination with other SAR elements for training and deployment etc.

Employment Aspects

34. As under: -

a. INSaR teams will be employed to assist and back up provinces / regions in case of disasters to mount specialized response. These teams would also have the capability to be employed internationally as well for which they will be suitably trained and equipped.

b. Aviation support, when required, will be met through Pakistan Army, Pakistan Airforce or Pakistan Navy.

c. NDMA will coordinate inter province and overseas deployment of teams, when required, details are as under: -

Serial	Team	Area	Departments
(1)	INSaR - 1	KP, AJ&K and GB	Rescue 1122 KP & GB, Aviation Assets of PAF & Army, Maj NGOs with response capacities in the area
(2)	INSaR - 2	Punjab	Rescue 1122 Punjab, Aviation Assets of PAF and Army, Maj NGOs with response capacities in the area
(3)	INSaR - 3	Balochistan	Rescue 1122 Balochistan, Aviation Assets of Pakistan Navy and Army, Maj NGOs with response capacities in the area
(4)	INSaR - 4	Sindh	Rescue 1122, Pakistan Maritime Security Agency, Pakistan Coast Guards, Aviation Assets of Pakistan

Serial	Team	Area	Departments
			Navy and Army, Maj NGOs with response capacities in the area

Administrative Control Aspects

35. Respective departments / organizations will have administrative control over their teams; likewise, their sustenance, maintenance, relive, rotations, training and employment costs. Similarly, they will release all required assets in case of any disaster situation. This control includes: -

a. Management of team sustenance and maintenance.
b. Ensure availability of essential resources and logistical support for team operations.
c. Oversee routine maintenance and readiness of equipment and facilities.
d. Coordination with other agencies and NGOs to streamline response efforts.
e. Implement systematic rotation schedules to ensure continuous operational capacity.
f. Facilitate / conduct training programs to maintain high levels of preparedness and skill proficiency.
g. Manage and cover all associated costs related to team employment, including salaries and operational expenses.
h. Mobilize and deploy necessary assets and resources in response to disaster situations.
i. Coordination with national and regional agencies to ensure effective resource allocation.

36. Each INSaR team will include specialized units tailored to address geographically specific hazards, ensuring that their expertise and equipment are aligned with local risks. For instance, teams in earthquake-prone areas will focus on structural collapses, while those in flood-prone regions will prioritize water rescues. This specialization will allow for more efficient and targeted response efforts. These units will be trained in region-specific scenarios, enhancing their effectiveness in diverse environments.

a. **Fire Fighting Units**. Equipped to handle urban and wild fire incidents.
b. **Civil Defense Teams**. Trained in disaster management, public safety and crisis response.
c. **Ambulance Services**. Provide medical care and transportation for injured / dead individuals.

d. **Urban Search and Rescue (USAR)**. Specialized in rescuing individuals from collapsed structures and urban environments.

e. **Mountainous Rescue**. Equipped to perform in high-altitude / snow rescue.

f. **Water Rescue**. Trained to handle SAR operations in aquatic environments.

g. **HAZMAT Teams**. Skilled in managing hazardous materials incidents.

Financial Aspects

37. Provincial Governments will bear the expense of trainings, logistics and operations. However, NDMA will provide necessary linkages and manage any overseas deployment. In addition, UN, NGOs and development partners will be proactively engaged by Plans and DRR Wings of NDMA for assured commitment of resources for planned annual trainings.

Training

38. It is a critical component in ensuring the effectiveness SAR teams. These teams will undergo rigorous and specialized training to develop the skills necessary for responding to a wide range of emergencies, including natural disasters, urban SAR operations and high-altitude or water-based rescues, as under: -

a. Yearly training schedule, with input from all INSaR teams and collaborating partners will be issued by NDMA Plans Wing (by 1 December of every year for next year scope and duration).

b. To enable effective integrated operations under any adverse situation, all elements of INSaR will be trained in basic USAR followed by specialized training to meet geographic vulnerabilities. Training of volunteers will also be planned by respective INSaR teams focusing on the skills, types and categories of volunteers. A guideline on types and categories of volunteers is attached as **Annex D.**

c. Trainings of INSaR teams will be conducted in established institutions like Punjab Emergency Services Academy, NCoE, National Institute of Fire Technology etc while specialized training will be coordinated at Army High Altitude Warfare School, Army Desert Warfare School, Pakistan Navy and PAF training institutes etc to ensure uniformity in training.

d. A comprehensive 5-year INSaR outlook along with milestones to be achieved through phased capacity building and training is attached as **Annex E.**

e. INSARAG Compliance “National Certification Framework” Part-4, will be formalized to ensure that all SAR teams meet standardized, high-quality operational and safety benchmarks aligned with INSARAG guidelines.

PART - 4: National Certification Framework

39. Pakistan is highly vulnerable to a wide range of natural and human-induced disasters, including earthquakes, floods, landslides and industrial accidents. In the face of such challenges, efficiency and effectiveness of SAR teams play a critical role in saving lives and reducing losses. Despite their vital role, SAR teams in Pakistan have been operating without a unified framework that ensures consistent standards in training, equipment and operational procedures. Proposed National SAR Certification Framework seeks to address these gaps by establishing a formalized system for certifying SAR teams. By aligning with international best practices and fostering coordination among diverse SAR units and entities, this initiative considered crucial for building a more resilient and capable national disaster response system, ensuring that SAR teams are well-prepared to handle future emergencies.

40. **Aim**. The aim of National SAR Certification Framework is to establish a formalized mechanism that ensures all SAR teams operating within the country meet standardized, high-quality operational and safety benchmarks.

41. **Purpose**. Purpose of certification framework is to: -

a. **Standardize Training and Operations**. Ensure all SAR teams are trained and equipped to consistent standards, improving the efficiency and safety of their operations.

b. **Enhance Preparedness and Response**. Guarantee that certified SAR teams are prepared for rapid deployment and can effectively respond to natural and human-made disasters, minimizing casualties and damage.

c. **Ensure Interoperability**. Facilitate coordination between SAR teams as well as with international counterparts, by aligning with globally recognized standards such as those set by INSARAG.

d. **Improve Credibility and Trust**. Build public and institutional trust by certifying that teams possess the necessary skills, experience and equipment to carry out rescue operations safely and effectively.

e. **Support International Collaboration**. Enable Pakistani SAR teams to participate in international disaster response missions by meeting the criteria for international certification, enhancing Pakistan's global role in humanitarian assistance.

f. **Facilitate Continuous Improvement**. Establish a system for the regular review, recertification and development of SAR teams, fostering ongoing improvement and adaptation to new challenges or technologies in disaster management.

42. **Certification Authority**. Provincial Disaster Management Authorities (PDMAs) will commence the certification process in accordance with the guidelines established by NDMA. Each provincial team will be required to obtain this certification to ensure their operational readiness during emergencies. To ensure impartiality and objectivity in the certification process, evaluation will be conducted by a panel consisting of representatives from NDMA, concerned training institution, selected NGOs and other PDMAs. This collaborative approach will help maintain the integrity of the certification process and ensure that all teams meet the established standards of competence and preparedness. Composition of Certification Committee will be as under: -

Ser	Department	Status		Leading Organization / Department
		Provincial	Federal	
a.	NDMA	Federal.		Concerned PDMAs
b.	PDMA	Representatives from other PDMAs.		
c.	Rescue 1122	1 from concerned province.		
d.	Concerned Training Institution	2 - 3 officers.		
e.	Selected NGO	1 - 2 officers with requisite experience.		

43. **Certification Procedure**. National certification process would be a systematic approach divided into key stages: -

a. **Registration**. Teams intending to be certified must first register with the NDMA and undergo an initial evaluation.

b. **Training**. Teams must undertake comprehensive training that covers key areas, such as technical rescue, medical response, disaster management and coordination.

c. **Assessment**. Post-training, teams will be assessed via written tests, hands-on exercises and scenario-based evaluations.

d. **Certification**. Upon successful assessment, teams will receive national certification valid for a specified period (e.g. 3-5 years).

e. **Re-Certification**. After the certification period, teams will need to undergo periodic re-evaluation, after every 5 years, to ensure continued compliance with standards.

44. **Standards for Certification**. Standards must align with international frameworks like INSARAG Guidelines but be adapted to Pakistan's context. Core standards would cover: -

a. **Personnel Requirements**. Minimum training hours, physical fitness levels and skill certification for team members.

b. **Equipment Standards**. Essential equipment, maintenance schedules and operational readiness checks.

c. **Response Time Benchmarks**. Standards for response times to ensure teams can mobilize and arrive on scene efficiently.

d. **Operational Protocols**. Detailed protocols for safe, efficient search and rescue operations in various disaster scenarios.

e. **Compliance with Pakistan Resilience Standards (PRS)**. Integration with national standards that emphasize climate resilience and disaster preparedness.

45. **Certification Criteria**. Proposed certification criteria set the minimum standards required for SAR teams to be recognized as capable and certified responders in disaster situations. These criteria ensure uniformity in operations, safety and effectiveness across all SAR teams operating at the national, provincial and local levels. Below is a comprehensive breakdown of the key certification criteria.

a. **Team Composition**. Each SAR team must have a well-defined structure, comprising: -

(1) **Team Leader**. Responsible for command and control.

(2) **Rescue Specialists**. Skilled in various forms of rescue, such as structural collapse, water rescue, or mountain rescue.

(3) **Medical Staff**. Trained in advanced first aid and emergency medical response.

(4) **Engineers and Technicians**. To assess structural safety and provide technical support.

(5) **Logistics Support**. For communication, transport and operational support.

(6) **Fire Fighters**. To combat with major fire incident like forest, Industrial and multiple building fire, fire crew must form integral part of INSaR.

b. **Training and Certification**

(1) **Basic Training**. All team members must undergo mandatory training courses in: -

(a) Urban Search and Rescue (USAR) for collapsed structures.

(b) Swift Water Rescue for flood and water-related emergencies.

(c) First Aid and Basic Life Support (BLS).

(d) HAZMAT handling for industrial accidents. Moreover, comprehensive details for capacity building of teams as per their mandate, whereas the training modules are attached at **Annex ''F''**.

(2) **Advanced Certification**. Specialized roles such as team leaders, engineers and medical staff must complete advanced certification in: -

(a) Incident Command Systems (ICS).

(b) Technical Rescue Operations (rope rescue, confined space rescue, etc).

(c) Trauma Care and Advanced Life Support (ALS).

(3) **Ongoing Education**. Certified teams are required to participate in refresher courses and continuous professional development to maintain their certification.

c. **Operational Experience**. SAR teams must demonstrate prior experience by participating in actual disaster response operations or high-level simulations. Teams must have: -

(1) Participated in at least three disaster response operations or annual national-level simulation exercises.

(2) Experience in both urban and rural disaster settings, showing versatility in different rescue environments.

d. **Equipment Standards**

(1) **Mandatory Equipment**. Certified SAR teams must be equipped with a minimum set of rescue tools and technologies, including: -

(a) **Rescue Tools**. Hydraulic and pneumatic tools for cutting, breaking and lifting in collapsed structures.

(b) **Personal Protective Equipment (PPE)**. Helmets, gloves, boots, harnesses and high-visibility clothing.

(c) **Communication Devices**. Satellite phones, two-way radios and GPS systems.

(d) **Medical Kits**. Fully stocked first aid kits, trauma care supplies and evacuation stretchers.

(e) **Technical Gear**. Drones, thermal imaging cameras and structural monitoring devices for locating victims and ensuring team safety.

(2) **Inspection and Maintenance**. Regular maintenance and inspection logs of all equipment are mandatory. Teams must ensure that all equipment is operational before deployment.

e. **Capacity to Respond**

(1) **Response Time**. Certified SAR teams must demonstrate the ability to mobilize and deploy within a specified timeframe, usually within 6 to 12 hours of an incident.

(2) **Rapid Deployment Protocols**. Teams must have established procedures for rapid transport and logistics support, including: -

(a) Transport vehicles capable of reaching disaster zones, such as rescue trucks or helicopters.

(b) Pre-deployment checklists to ensure readiness of personnel and equipment.

f. **Health and Safety Protocols**

(1) **Team Safety**. Teams must adhere to strict health and safety protocols, including: -

(a) Conducting risk assessments before entering a disaster zone.

(b) Having safety officers on-site during operations.

(c) Use of proper decontamination procedures in cases involving hazardous materials or infectious diseases.

(2) **Medical Readiness**. Ensure that medical personnel are equipped to handle injuries sustained during rescue operations and that medical evacuation procedures are in place for team members.

g. **Team Interoperability**

(1) **Coordination Skills**. SAR teams must demonstrate their ability to coordinate with other emergency services, including police, fire departments, military and humanitarian organizations.

(2) **Multi-agency Training**. Teams are required to participate in multi-agency drills that test their ability to communicate and work alongside different SAR and emergency response units, both nationally and internationally.

(3) **Compliance with National Incident Management Systems (NIMS)** Teams must understand and follow standardized command and control systems, ensuring that operations are conducted efficiently.

h. **Community and Public Engagement**

(1) **Community Outreach**. Certified teams must engage in community awareness and preparedness activities, such as: -

(a) Conducting public training in disaster preparedness.

(b) Leading evacuation drills and rescue demonstrations to educate the public on what to do during emergencies.

(2) **Public Communication**. SAR teams should have media and public communication officers capable of providing accurate updates during a rescue mission, helping to manage public expectations and prevent misinformation.

i. **Compliance with International Standards**

(1) **INSARAG Guidelines**. Teams seeking certification must comply with INSARAG standards (International Search and Rescue Advisory Group) to ensure they meet international SAR requirements.

(2) **International Deployment**. Teams that meet these standards may apply for international certification through INSARAG, enabling them to participate in global disaster responses.

j. **Environmental and Cultural Sensitivity**

(1) **Respect for Local Cultures**. SAR teams must be trained in cultural sensitivity and respect for the communities they serve.

(2) **Environmental Responsibility**. Teams are required to operate in an environmentally conscious manner, ensuring that their operations do not cause further environmental harm or disruption to ecosystems.

k. **Sustainability and Readiness Maintenance**

(1) **Ongoing Drills and Exercises**. Teams must participate in annual drills and simulations, both internally and in coordination with other agencies, to maintain operational readiness.

(2) **Periodic Recertification**. Teams will undergo recertification every two to three years, which will include audits of their training, equipment and operational history.

l. **Documentation and Reporting**

(1) **Operational Reports**. After each deployment, certified teams must submit detailed operational reports, including: -

(a) **Post-Response Evaluation**. Assessment of their performance, challenges faced and lessons learned.

(b) **Equipment and Resource Utilization**. A breakdown of resources used and their effectiveness.

(2) **Compliance Documentation**. Teams must maintain updated records of training certifications, equipment inventories and team composition for auditing purposes.

m. **Logistical and Financial Preparedness**

(1) **Self-Sustainability**. SAR teams must demonstrate financial readiness for sustaining their operations, including sufficient funding for equipment, logistics and team welfare.

(2) **Government Support**. Teams should be able to apply for financial and logistical support from the government in times of major disasters, but they must have their own baseline capacity for immediate response.

n. **Specialized Rescue Teams (Optional Criteria)**. Teams specializing in unique rescue operations, such as mountain rescue or marine search and rescue, must demonstrate additional qualifications and equipment specific to these environments, including: -

(1) **Mountain Rescue**. Specialized mountaineering equipment, snow and ice rescue training.

(2) **Marine Rescue**. Boats, diving gear and water rescue techniques.

46. **Conduct of Simulation Exercises**. To validate the readiness of certified teams:-

a. **Annual Drills**. Each certified team should participate in annual national-level drills organized by the NDMA. These should simulate different disaster scenarios (earthquakes, floods, building collapses) and include multi-agency coordination.

b. **Cross-Provincial Exercises**. Simulation exercises that involve coordination between teams from different provinces, preparing them for larger-scale disasters.

c. **Post-Exercise Evaluation**. Each exercise will be followed by a detailed debriefing and evaluation, allowing for adjustments and improvements in team operations and readiness.

47. **5-Year Outlook**. Over the next five years, SAR teams in Pakistan will undergo significant transformation, driven by national disaster management policies, international cooperation, capacity building and technological advancements. Given the increasing frequency and intensity of disasters such as floods, earthquakes and urban emergencies, Pakistan will prioritize enhancing the operational capacity, standardization and readiness of its SAR teams to respond effectively to these challenges. Below is a detailed outlook: -

a. **Materialization of INSaR Concept**

(1) **Goal**. Materialization of concept and formulation of INSaR teams in all regions.

(2) **1st Year**

(a) Constitution of INSaR teams across Pakistan in designated districts / locations.

(b) Launch a series of train-the-trainer programs, ensuring that SAR teams can replicate training at the local level.

(c) Provide specialized training for SAR personnel, focusing on urban search and rescue, swift water rescue and trauma care. Collaborate with the military, Rescue 1122 and international organizations for technical support.

(d) Ensure that SAR teams at the provincial and district levels are equipped with modern rescue tools, communication equipment and personal protective gear.

b. **Standardization and Certification**

(1) **Goal**. Establish a national certification system for SAR teams, ensuring that all teams meet unified operational standards.

(2) **Year 1-2 - Certification System Rollout**

(a) Implement the National Certification Policy for SAR Teams, with a phased rollout for provincial, district and local-level teams.

(b) Align certification criteria with INSARAG (International Search and Rescue Advisory Group) guidelines to foster international cooperation.

(c) Establish a National Certification Committee for regular evaluations, with the aim to certify a minimum of 70% of SAR teams across Pakistan.

(3) **Year 3-5 - Maintenance and Recertification**

(a) Conduct periodic audits and recertification of certified teams.

(b) Set up a system for continuous professional development and annual participation in drills to ensure operational readiness.

(c) Certification criteria will be adapted and updated regularly to incorporate lessons learned from actual disaster responses.

c. **Capacity Building and Training**

(1) **Goal**. Enhance skills, knowledge and capabilities of SAR personnel through robust and regular training programs.

(2) **Year 1-2 - Training Programs Expansion**

(a) Training at different training institutions across Pakistan i.e. Punjab Emergency Services Academy, NCoE, National Institute of Fire Technology etc while specialized training will be coordinated at Army High Altitude Warfare School, Army Desert Warfare School, Pakistan Navy and PAF training institutes etc to ensure uniformity in training.

(b) Focus on critical skills such as Urban Search and Rescue (USAR), swift water rescue and hazardous material handling.

(3) **Year 3-5 - Specialized Training and Integration of Technology**

(a) Introduce specialized training programs, including mountain rescue, marine rescue and drones for SAR operations.

(b) Equip teams with the latest tools and technologies, including thermal imaging, geospatial mapping and robotic rescue devices.

(c) Partner with international agencies to allow Pakistani SAR teams to participate in global training and exchange programs.

d. **Technological Integration**

(1) **Goal**. Leverage modern technology to enhance SAR efficiency, coordination and safety.

(2) **Year 1-2 - Adoption of Key Technologies**

(a) Integrate drones for aerial search missions in inaccessible areas and post-disaster assessments.

(b) Provide teams with geospatial information systems (GIS) for real-time mapping and planning during rescue missions.

(c) Deploy communication technologies such as satellite phones and real-time data-sharing tools to ensure uninterrupted coordination.

(3) **Year 3-5 - Advanced Technological Adoption**

(a) Introduce rescue robots for entering collapsed buildings or hazardous areas where human responders cannot safely operate.

(b) Expand the use of thermal imaging cameras and ground-penetrating radar to locate victims under rubble or difficult terrains.

(c) Promote the development of an online national SAR coordination platform to track deployment, share data and synchronize multi-agency efforts.

e. **Increased Inter-Agency Coordination**

(1) **Goal**. Foster better communication and collaboration among SAR teams, government agencies and international partners.

(2) **Year 1-2 - Establishment of National and Provincial SAR Coordination Centers**

(a) Create dedicated SAR coordination hubs within the National Disaster Management Authority (NDMA) and Provincial Disaster Management Authorities (PDMAs).

(b) Set up multi-agency response frameworks to ensure smooth coordination between SAR teams, military, police, fire departments and NGOs.

(c) Conduct multi-agency disaster response drills that involve SAR teams, emergency medical services, police, fire departments and civil society organizations. This will improve coordination and operational readiness.

(3) **Year 3-5 - Strengthening International Collaboration**

(a) Formalize collaboration agreements with regional countries and international agencies to allow for cross-border SAR deployments.

(b) Participate actively in regional disaster response initiatives, such as SAARC Disaster Management Centre and INSARAG exercises.

f. **Expanding International Collaboration and Achieving INSARAG Certification**

(1) **Goal**. Align Pakistan's SAR teams with international standards and expand participation in global disaster response efforts.

(2) **Key Action**

(a) **INSARAG Certification**. Continue to improve SAR team performance by aligning with International Search and Rescue Advisory Group (INSARAG) guidelines, leading to the international certification of select Pakistani SAR units.

(b) **Participation in Regional and International SAR Exercises** Collaborate with neighboring countries and international agencies in joint exercises and knowledge-sharing sessions. This will strengthen Pakistan's ability to both lead and support regional disaster response operations.

(c) **Deploy Pakistani SAR Teams Internationally**. As SAR teams gain international recognition, explore opportunities to deploy them in international disaster responses, increasing Pakistan's visibility and role in global humanitarian efforts.

g. **Institutionalizing Sustainability and Community Integration**

(1) **Goal**. Ensure long-term sustainability, readiness and integration of SAR teams within the broader national disaster management framework.

(2) **Key Actions**

(a) **Continuous Professional Development**. Establish a structured program for the continuous training and certification of SAR personnel to maintain operational readiness and compliance with evolving international standards.

(b) **Strengthening Community-SAR Collaboration**. Institutionalize community-based disaster risk reduction (CBDRR) programs that involve communities as first responders and ensure close coordination between SAR teams and local populations in high-risk areas.

(c) **Monitoring and Evaluation Systems**. Develop robust monitoring and evaluation frameworks to assess SAR team performance during disaster operations and provide feedback for further improvements.

h. **Cross-Cutting Themes for All Five Years**

(1) **Gender and Inclusivity**. Ensure that SAR teams include diverse members, including women and persons with disabilities, to build an inclusive response force that understands the varied needs of disaster-affected communities.

(2) **Public-Private Partnerships**. Foster partnerships between SAR teams and the private sector, focusing on resource mobilization, technological innovation and logistics support.

(3) **Climate Adaptation and Risk Reduction**. Align SAR preparedness with broader climate adaptation strategies to anticipate the growing risk of climate-induced disasters, such as floods, droughts and heatwaves.

i. **Expected Outcomes by Year 5**

(1) **Nationwide Certified SAR Teams**. All SAR teams in Pakistan will meet standardized operational and training benchmarks, improving response time, efficiency and safety during emergencies.

(2) **Technologically Advanced SAR Operations**. SAR teams will use drones, GIS systems and real-time data analytics to make informed decisions during disaster response efforts, leading to more effective rescue operations.

(3) **Regional and Global Recognition**. Pakistan's SAR teams will gain recognition for their professionalism and capabilities, achieving INSARAG certification and contributing to regional and international disaster relief missions.

(4) **Community-Integrated SAR Operations**. Communities will be actively involved in disaster preparedness and response, working in tandem with SAR teams to build a resilient and proactive national disaster management framework.

j. By the end of this five-year period, Pakistan's SAR capabilities will be significantly enhanced, enabling the country to manage disasters more effectively and save lives.

Conclusion

48. INSaR is a framework for enhancing national preparedness and response capabilities in face of geo-based disasters. INSaR represents a proactive, coordinated and inclusive approach to saving lives, reducing suffering and minimizing property damage in times of crisis. It encompasses unified approach, efficient resource allocation / utilization, specialized training, inter-agency cooperation, community engagement, adaptability while operating under legal mechanism to enable national and international response to any emergent situation. Incorporating the principles and practices outlined in this concept paper will surely lead to a more resilient and responsive nation, capable of effectively addressing geo-based disasters, emergencies and large-scale accidents.

Annex - A

URBAN SEARCH AND RESCUE (USAR)

Ser	Organization	Original Strength	Current Strength	Core Capabilities	Special Capability
1.	USAR MCI Islamabad	86	62	SAR operations in collapsed building / rubbles and structures, Road Traffic Accidents, Rope Rescue, Confined Space Rescue, Animal Rescue, High Angle Rescue, Firefighting.	
2.	USAR KMC Karachi	54	45	SAR operations in collapsed building / rubbles and structures, Road Traffic Accidents, Rope Rescue, Confined Space Rescue, Animal Rescue, High Angle Rescue, Firefighting.	
3.	USAR Rescue 1122 GB	54	54	SAR operations in collapsed building / rubbles and structures, Road Traffic Accidents, Rope Rescue, Confined Space Rescue, Animal Rescue, High Angle Rescue, Firefighting.	Mountain Rescue
4.	USAR Rescue 1122 KP	50	40 (May 2023)	SAR operations in collapsed building / rubbles and structures, Road Traffic Accidents, Rope Rescue, Confined Space Rescue, Animal Rescue, High Angle Rescue, water rescue, Ambulance Service, firefighting	Water Rescue
5.	Pakistan Rescue Team (Punjab)	91	91	SAR operations in collapsed building / rubbles and structures, Road Traffic Accidents, Rope Rescue, Confined Space Rescue, Animal Rescue, High Angle Rescue, Water Rescue, Ambulance Service Firefighting along.	HAZMAT
6.	USAR Pak Army	56	56	SAR operations in collapsed building / rubbles and structures, Road Traffic Accidents, Rope Rescue, Confined Space Rescue, Animal Rescue, High Angle Rescue.	K-9

Annex - B

SAR LANDSCAPE OF PAKISTAN

Ser	Organization	Major Capabilities	HR Earmarked for SAR	Platforms Available	Geographic Disposition
1.	Rescue 1122	SAR operations in collapsed building / rubbles and structures, Road Traffic Accidents, Rescue, Animal Rescue, Water Rescue, Ambulance Service Firefighting, First Aid / Medical Services.	Geographically disbursed across the country	Boats / Ambulance / Motor Bikes / TTL / APF / Fire Tenders / Rescue Vehicles / Water Rescue Van	Punjab / KP/ GB/ Sindh
2.	Civil Defense	Minimizing Casualties / Minimize damage and dislocation to essential services / Provision of active civilian support / First Aid Services / Bomb Disposal	Geographically disbursed across the country	Ambulances / fire trucks / radios / PPE / Medical Aid kits	Karachi, Islamabad, Quetta, Peshawar, Abbottabad, Lahore, Muzaffarabad
3.	Pakistan Army	Trained / Professionally Sound / Providing Humanitarian Relief Assistance	Inherent capability for operational task	Boats / Helicopters	All Over Pakistan
4.	Pakistan Coast Guards	Prevention of Smuggling / illegal Immigrants / Enemy infiltration / Assist in SAR / conduct operations both on land & sea.	Inherent capability for operational task	Inventory Vessels / Marine Equipment	Coastal Areas of Pakistan
5.	Pakistan Maritime Security Agency	PMSA Assists in SAR, Marine Pollution Control, Anti-Poaching, Anti-Smuggling and Drug Trafficking operations with regular patrolling and surveillance of Pakistan EEZ.	Inherent capability for operational task	Boats / Ships / Helicopter	Sea / Ocean
6.	Pakistan Navy	Disaster Relief at Sea / Search & Rescue	Inherent capability for operational task	Boats / Ships / Helicopter	Sea / Ocean / Land

Ser	Organization	Major Capabilities	HR Earmarked for SAR	Platforms Available	Geographic Disposition
7.	Pakistan Air Force	Ariel Search / Relief Operations	Inherent capability for operational task	Aircrafts / Helicopters	All Over Pakistan
8.	Pakistan Civil Aviation	Rescue Coordination Centers / locate persons in distress / provide Medical Services / in coordination with armed forces / LEAs.	-	Cargo Aircraft / Commercial Aircrafts / Helicopter / Metal Detectors / Fire Tenders	Karachi / Lahore/ Islamabad / Peshawar
9.	Pakistan Red Crescent Society	Emergency Medical and Relief Services / Volunteer Services.	62,000 Volunteers	Ambulance / Blood Banks / Health Units	KP, Sindh, Punjab, Balochistan
10.	EDHI	Ambulance Service / Medical Services / Medical Aid / Rescue Services / Rehabilitation Services / Missing Person Services / Educational Services.	Geographically disbursed across the country	Ambulances, Mobile Mortuary	All Over Pakistan
11.	Al-Khidmat	Relief Services, Medical Aid, Education, WASH, Food Packages	200	Ambulance / Boats / Drones	KP, AJK, Sindh / Punjab / Balochistan
12.	Agha Khan Foundation	Community emergency Trainings (CET), SAR, Medical Aid, WASH.	40 Trained Teams of SAR	Drones / Ambulances	Skardu, GB, Chitral, Dasu & Hunza
13.	Pakistan Boy Scouts / Girl Guides Association	Trained in outdoor skills / trained to Aid professional rescuers in Search & Rescue.	Geographically Disbursed / 1 million	-	All Over Pakistan
14.	Chippa	Ambulance / paramedics / morgue / mobile morgue / Dastarkhwan / First Aid / Shelter homes for orphans / women.	Geographically Spread	Ambulance / Boats	Lahore / Karachi / Islamabad / Peshawar / Quetta
15.	Firefighting Departments	Extinguishing Fires / Search & Rescue / Evacuation.	Geographically spread	Fire trucks / First Aid / & Equipment / Radio / PPEs	Karachi / Lahore / Peshawar / GB / Islamabad / Quetta

Annex - C

COMPOSITON, EXISTING AND REQUIRED SKILLS FOR INSaR FRAMEWORK

Serial	Team	Jurisdiction	Topography	Geo-based Hazards	INSaR	Existing Skill	Required Skill	Reporting Org/Dep	Material Resources for INSaR Teams as Per Respective Roles
1	INSaR 1	KPK, GB and AJ&K	**Mountainous, Urban, Rural, Riverine**	• Earthquake • Landslide • Avalanches • GLOF • Forest Fire • Building Fire • Flood • Anthropogenic Incidents • Industrial Hazards	USAR KPK	• Height and Depth Rescue. (Rope Rescue) • Collapsed structure Search and Rescue • Firefighting • Water Rescue • First Aid	• Snow and Mountain Rescue • K9 Component • Water Rescue (Scuba diving) • HAZMAT • Dead Body Management (DBM)	PDMA/Rescue 1122 KPK	**Vehicles: -** • Incident Command Post Vehicle • Rescue Vehicles • Ambulances **Search & Rescue Tool, Equipment, and Accessories** • PPEs • Self-Contained Breathing Apparatus (SCBA) • Snake Eye Searching Cameras • Life Detectors • Thermal Imaging Cameras • Drone Cameras • Complete Cribbing • Concrete, Steel and Wood Cutters • Complete Shoring • Medical Kit • Marking and other Helping Materials • Snake Catcher .
					Al-Khidmat (USAR)	• First Aid, BLS • Height & Depth Rescue • Water Rescue • Camp Management • CSSR • ICS	• Fire Fighting • DBM		
					Agha Khan (USAR)	• CSSR • First Aid • BLS	• Water Rescue • Height & Depth Rescue • Fire Fighting		
					Edhi Foundation	Shifting of Patient and Dead Bodies	• First Aid • BLS • Community Action for Disaster Response (CADRE)		
					PRCS	• First Aid • BLS • Evacuation of People • Humanitarian Services	• CADRE		
					Civil Defense	• Bomb Disposal • Announcement / EW • Evacuation of People	• CADRE • DBM		

Serial	Team	Jurisdiction	Topography	Geo-based Hazards	INSaR	Existing Skill	Required Skill	Reporting Org/Dep	Material Resources for INSaR Teams as Per Respective Roles
2	INSaR 2	Punjab	Riverine Urban Rural Mountain Desert	• Fire • Industrial Hazards • RTA/ Train Accidents • HAZMAT • Riverine • Urban Flooding • Smog • Earthquake • Drowning • Heat Wave	USAR Punjab (INSARAG -PRT)	• Fire Fighting • Water Rescue/ Flood Response • HAZMAT Response Team • Dead Body Management. • Collapsed Structure Search and Rescue • Height and Depth Rescue • Rope Rescue • Emergency Medical Services (EMS) • Urban Search and Rescue • Snow and Mountain Rescue • Air Ambulance Service	• K9 Component	PDMA/PESD Rescue 1122	**<u>Height Rescue</u>**: - • PPEs • Repelling Ropes • Safety Ropes • Basket Stretcher • Seat & Full Body Harnesses • D-Rings • Figure of Eight • Pullies **<u>Rescue Boats</u>**: - • Fiber • Inflatable Boats with OBM (40 HP) **<u>Water Rescue Tools, equipment, and Accessories</u>** • Scuba Diving Complete Sets with Diving Suits • Sonar Radar • Lifejackets and Rescue Tubes • Life Lines and Ring Buoys • Back/Spine board. • First Aid Kit and on-site AED
					Edhi and Chhipa	Same as INSaR-1	Same as INSaR-1		
					Al-Khidmat				
					Agha Khan				
					PRCS				
					Civil Defense				
					CERTs	CADRE			
					Scouts	• Camp Management • First Aid			

Serial	Team	Jurisdiction	Topography	Geo-based Hazards	INSaR	Existing Skill	Required Skill	Reporting Org/Dep	Material Resources for INSaR Teams as Per Respective Roles
3	INSaR -3	Sindh	Urban Rural Riverine Desert Coastal	• Fire • Industrial Hazards • Tsunami • Floods • Road/Train Accidents • Heat wave • HAZMAT • Coastal Hazards	USAR Sindh	• Fire Fighting • CSSR/USAR • Water Rescue • MFR	• Hazmat • Height & Depth Rescue • Sea SAR	PDMA/Rescue 1122 Sindh	**<u>Medical Equipment</u>**: - • PPEs • Triage Ribbon • Oxygen Supply System and Ambo Bag • Automated External Defibrillator (AED). • Suction Unit • Complete First Aid Kit • Stretcher and Spine board • Cervical Collars and Splints • Dead Body Sheets and Bags • Splints (Small Medium & Large)
					Edhi Service	• Shifting of Dead Bodies and Minor Patient • Ariel Search • Water Rescue	• First Aid • BLS • CADRE		
					Al-Khidmat	• First Aid, BLS • Height & Depth Rescue • Water Rescue • Camp Management • CSSR • ICS	• Fire Fighting • DBM • Hazmat • Scuba Diving		
					KMC Fire Brigade	• USAR • Fire Fighting	• CADRE • Water Rescue		
					PMSA/PN	• Sea SAR • Coastal Search & Rescue • Ariel Search & Rescue	• CADRE • USAR		
					Agha Khan	• CSSR • First Aid • BLS	• Water Rescue • Height & Depth Rescue • Hazmat • Fire Fighting		
					PRCS	• First Aid • BLS • Evacuation of People • Humanitarian Services	• Water Rescue • USAR		

Serial	Team	Jurisdiction	Topography	Geo-based Hazards	INSaR	Existing Skill	Required Skill	Reporting Org/Dep	Material Resources for INSaR Teams as Per Respective Roles
4	INSaR-4	Baluchistan	Urban Mountain Coastal	• Building /Wild Fire • Flash Flooding • HAZMAT • Earthquake • Mine Collapse • Coastal Erosion • Liquefaction	USAR PDMA Baluchistan	Medical First Responder	• Collapsed Structure Search and Rescue • Fire fighting • Water Rescue • Height & Depth Rescue • HAZMAT	PDMA/Rescue 1122 Baluchistan	**HAZMAT**: - • Complete PPEs • Disposable Respirators • Canisters • Hazardous Material Detectors • Decontamination components **Forest Fire** • Turnout gear • Fire Beaters • Chain saws • Fire extinguishers • GPS devices • Fire Hooks **Common Material** • Cordon off tap and Safety Cones • Complete First Aid Kit • Walkie Talkies • Maga phone
					Al-khidmat	• First Aid, BLS • Camp Management • CSSR • ICS	• Fire Fighting • DBM • Hazmat • Scuba Diving		
					Agha khan	• CSSR • First Aid • BLS	• Water Rescue • Height & Depth Rescue • Hazmat • Fire Fighting		
					PRCS	• First Aid • BLS • Evacuation of People • Humanitarian Services	• Water Rescue • USAR		
					Edhi Foundation	• Shifting of Patients • Shifting of Dead Bodies	• CADRE		
					Civil Defense	Same as INSaR -1	• USAR • Height & Depth Rescue		
					Scouts		• Water Rescue • Mountain Rescue		

Annex - D

CATEGORIES / TYPES OF VOLUNTEERS

1. Volunteers are categorized based on their capacities and skill sets they possess ensuring that specific competencies align with the demands of each task. Understanding the different categories of volunteers and the skill sets needed for each can significantly enhance the effectiveness of disaster management efforts. Below are the primary categories of volunteers and the essential skills required for each.

a. **First Responders / General Support Volunteers**. These volunteers are often the first on the scene during a disaster. They provide immediate assistance and support to affected individuals. Skill sets / proficiencies required by First Responders include: -

(1) **First Aid and CPR**. Certification in basic first aid and cardiopulmonary resuscitation.

(2) **Emergency Response Training**. Knowledge of emergency protocols and procedures.

(3) **Situational Awareness**. Ability to assess and respond to rapidly changing environments.

(4) **Communication Skills**. Clear communication with other responders and affected individuals. Disseminate early warning alerts by understanding local communication channels and using appropriate language.

(5) **Search and Rescue (SAR) Techniques**. Navigating debris, using ropes / pulleys, and operating light rescue tools.

(6) **Equipment Proficiency**. Using fire extinguishers, defibrillators, drones or radios.

(7) **Area Specific Technical Expertise**

(a) **Water Rescue**

i. **Throw-Bag Rescue** i.e. securely removing a person from the water by using a rope and a flotation bag.

ii. **Reaching Rescue** i.e. reaching out to a struggling person with a stick, rope or other substantial object so they may grab hold of it and be hauled to safety without the rescuer having to get into the water.

iii. **Flotation Assistance** i.e. to maintain the victim above the water until a proper rescue can be carried out by tossing life jackets, inflatable tubes or plastic containers.

(b) **Basic Boat Handling & Evacuation**. Basic understanding of to safely **enter and exit the boat** without capsizing, knowledge of **paddling techniques** to maneuver the boat effectively in floodwaters, operation of OBM and **helping victims board the boat** safely and calmly during a rescue.

(c) **Avalanche / Snow Rescue**. Volunteers involved in Avalanche and Snow Rescue play a crucial role in ensuring the safety of individuals in snowy and mountainous regions. Skill sets / proficiencies required include: -

i. **Avalanche awareness** i.e. understanding avalanche dynamics, terrain, snowpack stability and weather conditions as well as ability to interpret avalanche forecasts and make informed decisions.

ii. **Rescue techniques** to include proficiency in avalanche rescue techniques, including the use of transceivers, probes and shovels; skills in conducting effective search patterns and locating buried individuals.

iii. **First aid** and **medical response** i.e. basic first aid and CPR training to provide initial medical assistance to victims and knowledge of how to handle injuries related to avalanches, such as hypothermia and trauma.

iv. **Snow travel skills** to include travel techniques on snow and ice, including use of snowshoes, skis and split boards and experience in navigation and route finding in winter conditions.

v. Good **physical condition** to handle the demands of snow rescue operations, which may include heavy lifting, digging and traversing difficult terrain.

vi. **Equipment proficiency** i.e. familiarity with and proper use of avalanche safety equipment, including beacons, probes, shovels and rescue sleds.

b. **Logistics / Supply Chain Volunteers**. These volunteers manage the logistics of disaster response, including distribution of supplies and coordination of services. Skill sets / proficiencies required by Logistical Support Volunteers include: -

(1) **Organizational Skills**. Ability to organize and manage resources efficiently.

(2) **Inventory Management**. Knowledge of tracking and managing supplies.

(3) **Problem-Solving**. Quick decision-making skills to address logistical challenges.

(4) **Team Coordination**. Ability to work collaboratively with other volunteers and agencies.

(5) **Transportation Coordination**. Ability to plan how people, materials and equipment will get to and from the impacted locations.

(6) **Setting Up and Maintaining Shelter**. Ability to swiftly erect temporary infrastructure for displaced persons, such as tents and tarps.

(7) **Data Entry / Reporting**. Documenting beneficiary details or damage assessments for NDMA / PDMAs and understanding of supply chain protocols and safety standards.

c. **Camp Management / Relief Provision Volunteers**. Camp management and relief provision volunteers are pivotal in ensuring safe, organized and equitable support to disaster-affected populations. These roles demand a mix of logistical, social and technical skills tailored to challenges like overcrowded shelters, resource shortages and cultural sensitivities. Skill sets / proficiencies required include: -

(1) **Logistical Coordination**

(a) **Site Planning**. Ability to design camp layouts for sanitation, accessibility and security (e.g. separating families, allocating space for medical tents).

(b) **Resource Allocation**. Distributing tents, blankets and hygiene kits based on family size / vulnerability.

(c) **Infrastructure Maintenance**. Managing water supply, electricity and waste disposal systems.

(2) **Health and Sanitation**

(a) **Hygiene Promotion**. Training communities on handwashing, waste disposal, and menstrual hygiene.

(b) **Disease Surveillance**. Identifying symptoms of outbreaks (e.g. malaria, dengue) and coordinating with health teams.

(c) **Sanitation Knowledge**. Preventing disease outbreaks (e.g. safe water practices in flood zones).

(3) **Security and Protection**

(a) **Gender-Sensitive Safeguarding**. Creating safe spaces for women, children, and marginalized groups (e.g. separate bathing areas, nighttime patrols).

(b) **Conflict Mediation**.Resolving disputes over resources (e.g. food rationing) or space.

(4) **Community Engagement**

(a) **Cultural Competence**. Respecting local customs (e.g. prayer times, dietary restrictions).

(b) **Communication**. Fluency in regional languages (Urdu, Sindhi, Pashto) to share camp rules and updates.

d. **Community Outreach Volunteers**. These volunteers engage with the community to raise awareness, provide information and gather feedback. Skill sets / proficiencies required by Community Outreach Volunteers include: -

(1) **Interpersonal Skills**. Strong ability to connect with diverse community members.

(2) **Public Speaking**. Confidence in presenting information to groups.

(3) **Cultural Competence**. Understanding and respecting different cultural backgrounds.

(4) **Listening Skills**. Ability to listen to community concerns and feedback.

e. **Mental Health Support Volunteers**. Volunteers in this category are to provide psychological first aid and emotional support to disaster survivors. After calamities like earthquakes, floods, tsunamis, cyclones etc, their job is to assist survivors in overcoming trauma, easing their anguish and promoting emotional healing. The skill sets / proficiencies required include: -

(1) **Counselling Techniques**. Basic knowledge of counselling or mental health support strategies.

(2) **Empathy and Compassion**. Strong interpersonal skills to provide emotional support.

(3) **Crisis Intervention**. Ability to recognize signs of distress and provide appropriate interventions.

(4) **Confidentiality**. Understanding the importance of maintaining privacy and trust.

(5) **Trauma Psychological Skills**

(a) **Psychological First Aid (PFA)**. Providing immediate emotional support to distressed individuals.

(b) **Community-Based Support**. Engaging communities to create safe spaces for emotional expression.

(c) **Identifying High-Risk Cases**. Referring individuals with severe psychological trauma to mental health professionals.

(d) **Grief Counseling**. Supporting survivors coping with the loss of loved ones.

(e) **Child Protection & Support**. Helping children process trauma through play therapy and counselling.

f. **Health and Medical Volunteers**. Medical professionals and trained volunteers who provide emergency medical care, triage and basic life support to survivors. The skill sets / proficiencies required include: -

(1) **Medical Training**. Credentials in healthcare, such as nursing, paramedics or other relevant fields.

(2) **Emergency Medical Response**. Ability to provide care in emergency situations.

(3) **Patient Assessment**. Skills in evaluating and triaging patients effectively.

(4) **Basic First Aid & CPR**. Volunteers should get training on how to treat minor wounds including burns, cuts and bruises as well as how to conduct cardiopulmonary resuscitation (CPR) in the event of a cardiac arrest.

(5) **Wound Care**. Learning how to clean, treat and bandage wounds to stop bleeding and prevent infection.

(6) **Handling Snake Bites**. Including immobilization and emergency response techniques.

(7) **Fracture Management**. Splinting and stabilizing injured limbs before professional medical care arrives.

(8) Triage expertise to prioritize care based on injury severity.

(9) Knowledge of infection control and sterile procedures.

g. **Technical Specialists**. Technical specialist volunteers address infrastructure or engineering (e.g. structural assessments etc). The skill sets / proficiencies required include: -

(1) Hazard assessment for buildings / utilities.

(2) GIS mapping or data analysis expertise.

(3) Problem-solving for rapid technical solutions.

(4) Experience in disaster-prone environments.

2. **Selection Criteria / Identification of Potential Volunteers**

a. **Skills and Experience**

(1) **Relevant Skills**. Volunteers with skills pertinent to disaster response, such as first aid / CPR, search and rescue, medical training, firefighting, logistics or counselling.

(2) **Previous Experience**. Preference for individuals who have previous volunteer experience in disaster situations or related fields, such as emergency management, humanitarian aid or community service.

b. **Availability and Commitment**

(1) **Time Commitment**. Volunteers with availability to respond during emergencies, including their willingness to participate in training sessions and ongoing preparedness activities.

(2) **Flexibility**. Willingness to adapt to changing situations and potentially work long hours during a disaster response.

c. **Physical and Mental Readiness**

(1) **Physical Fitness**. Physically capable to perform required tasks, especially in demanding conditions (e.g. lifting, walking long distances).

(2) **Mental Resilience**. Ability to cope with stress and emotional challenges that may arise during disaster response, including exposure to traumatic situations.

d. **Teamwork and Communication Skills**

(1) **Collaboration**. Volunteer with ability to work effectively as part of a team, as disaster response often involves coordination among various individuals and organizations.

(2) **Communication Skills**. Strong verbal and written communication skills are essential for clear reporting and effective interaction with other responders and affected communities.

e. **Cultural Competence and Sensitivity**

(1) **Understanding of Local Context**. Familiarity with the community and its needs, including cultural, social and economic factors.

(2) **Respect for Diversity**. Ability to work respectfully and effectively with diverse populations, including marginalized groups.

f. **Background Check and References**

(1) **Background Screening**. Background checks to ensure the safety and security of vulnerable populations, especially in sensitive situations (e.g. working with children or in shelters).

(2) **References**. Request references from previous volunteer supervisors or community leaders to assess the volunteer's reliability and character.

g. **Motivation and Attitude**

(1) **Genuine Interest**. Volunteers who demonstrate a sincere commitment to helping others and a passion for community service.

(2) **Positive Attitude**. A willingness to face challenges with a constructive and adaptable mindset.

h. **Training and Certifications**

(1) **Relevant Certifications**. Prior certifications in emergency management, first aid, CPR or specialized training in disaster response can be beneficial.

(2) **Willingness to get Training**. The candidate should be open to completing necessary training programs if they lack certain skills or certifications.

Annex - E

INSaR - 5 YEARS OUTLOOK

Ser	Area of Progress	2025	2026	2027	2028	2029	2030
1.	Materialization of INSaR Concept	Implementation of Concept and formulation of INSaR teams		-			
2.	Standardization and Certification	-	**Certification System Rollout** • Implement NCP • Align certification criteria with INSRAG • Certify minimum of 70% of SAR teams		**Maintenance and Recertification** • Periodic audits and recertification • Continuous professional development and annual participation in drills • Adapted and regularly updated certification criteria		
3.	Capacity Building and Training	**Training Programs Expansion** • Train-the-trainer programs • Specialized trainings • Equipping SAR teams	**Training Programs Expansion** • Regional SAR Training Centers Focus on critical skills		**Specialized Training and Integration of Technology** • Specialized training programs - mountain rescue, marine rescue and drones for SAR ops • Equip teams with latest tools and technologies • Participation in global training and exchange programs		
4.	Technological Integration	-	**Adoption of Key Technologies** • Integrate drones for aerial search • Provision of GIS / real-time mapping and planning • Advanced communication technologies		**Advanced Technological Adoption** • Rescue robots for entering collapsed buildings or hazardous areas • Thermal imaging and snake eye cameras • Online national SAR coord platform to track deployment, share data and synchronize multi-agency efforts		
5.	Increased Inter-Agency Coordination	-	**Establishment of National and Provincial SAR Coordination Centers** • Dedicated SAR coordination hubs • Multi-agency response frameworks • Multi-agency disaster response drills		**Strengthening International Collaboration** • Collaboration agreements with regional countries and international agencies • Participation in regional disaster response initiatives and exercises		

Ser	Area of Progress	2025	2026	2027	2028	2029	2030
6.	Expanding Intl. Collaboration and Achieving INSARAG Cert.	-	**INSARAG Certification** • Improvements in SAR teams' performance • Aligning with INSARAG guidelines - international certification of selected SAR units			**Deployment of Pakistani SAR Teams Internationally** • Explore opportunities to deploy SAR teams in international disaster responses	
7.	Institutionalizing Sustainability and Community Integration	-	**Continuous Professional Development** • Structured program for continuous training and certification • Strengthening Community-SAR Collaboration • Institutionalize CBDRR programs		**Matured Monitoring and Evaluation Systems** • Robust monitoring and evaluation frameworks		
8.	Cross-Cutting Themes	-	Gender and Inclusivity - Public-Private Partnerships - Climate Adaptation and Risk Reduction				

Annex - F

TRAINING MODULES FOR NATIONAL CERTIFICATION
Module No. 1

Title of Training	Purpose of Training	Time line		Training Facility / Portfolio
		Training Period	Refresher	
First Aid	Aim of this training is to equip the individuals with the knowledge and skills to: - • Respond to Medical emergencies. • Provide immediate care to prevent harm or death. • Stabilize the Patient until advanced medical help arrives. **First Aid**. This Shall encompass following: - • Wound Management • Bleeding Control. • Injury Assessment. • Fracture Management. • Improvise Splinting and application of Cervical Collar. **Basic Life Support (BLS)**. Training shall include: - • Cardiopulmonary Resuscitation (CPR) • Rescue Breathing. • Use of Automated External Defibrillator (AED). • Foreign Body Air Way Obstruction (FBAO).	1 Week	2 years	• Emergency Services Academy Lahore • Rescue 1122 (District Level)

Module No. 2

Title of Training	Purpose of Training	Time line		Training Facility/ Portfolio
		Training Period	Refresher	
Fire Fighting	Urban and Forest fire is an emerging challenge across the country. The purpose of this training is to enhance the coping capability of INSaR teams in term of firefighting, the participants will be able to learn and demonstrate the following: - • Define the fire. • Triangle and Tetrahedron of fire. • Classes of Fire. • Spread of Fire. • Extinguishing Methods. • Type of Fire Extinguishers. • Use of Fire Extinguishers. • Bucket Brigade. • Fire Hoses Layout. • Fire Fighting with SCBA. • Smoke Room Entry. • Fire Safety in the High-Rise Building. • Forest Fire and combat mechanism.	4 Weeks	2years	• Emergency Services Academy Lahore • Disaster Management Academy CDA Islamabad • Fire Technology Training Academy (Civil Defense Islamabad

Module No. 3

Title of Training	Purpose of Training	Time line		Training Facility/ Portfolio
		Training Period	Refresher	
Height & Depth Rescue	The aim of this course is to train the participants to rescue the individuals from height such as from High Rise Building, Bridges, towers, mountain and from depth like from deep well by using specialized equipment such as rope, pulleys harnesses, ''D'' Rings and ascending descending techniques.	2 Weeks	2years	• Emergency Services Academy Lahore • Mountain Rescue Training Facility Murree

Module No. 4

Title of Training	Purpose of Training	Time line		Training Facility/ Portfolio
		Training Period	Refresher	
Collapsed Structure Search & Rescue (CSSR)	The Participants will learn and demonstrate the following: - • Course Introduction. • CSSR Operation. • Materials of Construction and type of Damage. • INSARAG Marking System. • Searching Techniques. • Using of Tool Equipment and Accessories (TEA). • Rescue Techniques. • Shoring Methods. • Lifting and stabilizing of loads. • Pre-Hospital Management. • Final Scenario based Exercise.	2 Weeks	2 years	• Emergency Services Academy Lahore • Disaster Management Academy CDA Islamabad • Military Collage of Engineering Risalpur

Module No. 5

Title of Training	Purpose of Training	Time line		Training Facility/ Portfolio
		Training Period	Refresher	
Community Action for Disaster Response	• This Course is designed as ‘’Program for enhancement of Emergency Response (PEER)’’ for Community Responders and this is the comprehensive course in all aspects. After the completion of this course participants will be able to elaborate and demonstrate: - • Course Introduction. • Common Hazards and Community Response Group. • Securing Family and Preparing for Response. • First Aid and BLS. • Incident Command System and Triage. • Dead Body Management. • Fire Emergencies. • Basic Search and Rescue. • Water Emergencies. • Final Practical Exercise.	2 Week (Basic and Instructor Workshop)	2 years	• Emergency Services Academy Lahore • Community Rescue Stations (1122) in all Districts of Punjab.

Module No. 6

Title of Training	Purpose of Training	Time line		Training Facility/ Portfolio
		Training Period	Refresher	

Medical First Responder Course (MFR) for Emergency Medical Technician	MFR course is for the professional Emergency Medical Responder specifically for EMTs/Paramedics after the completion of this course they will be able to explain and demonstrate: -
	• Roles and Responsibilities of Medical First Responder.
	• Scene Safety and Assessment.
	• Patient Assessment.
	• Vital Signs.
	• Wound Management.
	• Bleeding Control.
	• Shock Management.
	• Medical Emergencies.
	• Injury Management: -
	  ○ Musculoskeletal injuries.
	  ○ Head and Spine Injury Stroke and Neurological Emergencies.
	• Environmental Emergencies.
	• Pediatric and Geriatric Care.
	• Child Birth (Delivery).
	• Prenatal, perinatal and postpartum care.
		2 Weeks	2 years	Emergency Services Academy Lahore

Module No. 7

Title of Training	Purpose of Training	Time line		Training Facility/ Portfolio
		Training Period	Refresher	
Water Rescue Training	The training will cover: - • Physical Fitness of INSaR Team. • Water Hazards. • Swimming Skill. • Wearing PPEs. • Shallow Water Crossing Technique. • Rescue Knots. • Throw and Tow. • Victim Handling. • CPR/BLS. • Scuba Diving. • Operating of Boat with OBM. • Dead Body Searching Techniques. • Grid Search. • Sweep Search. • Circle Search. • Sector Search. • Sonar Search. • Visual Search. • Drag Search. • Ariel Drone Search. • Scuba Diving Search.	1 Month	2 years	• Pakistan Navy • Emergency Services Academy Lahore

Module No. 8

Title of Training	Purpose of Training	Time line		Training Facility/ Portfolio
		Training Period	Refresher	
Dead Body Management	The course is designed to make the responders proficient to identify and manage the dead bodies. The course covers: - • Introduction to Dead body Management. • Scene Management. • Personnel Protective Equipment (PPE). • Decontamination and Cleaning. • Handling and moving. • Identification and Documentation. • Storage and Transportation. • Morgue Operations • Communication and Family Support. • Special Considerations. • Legal and Ethical Considerations. • Practical Exercise and Scenarios.	1 Week	2 years	• PRCS • Emergency Services Academy Lahore

Module No. 9

Title of Training	Purpose of Training	Time line		Training Facility/ Portfolio
		Training Period	Refresher	
Hazardous Material (HAZMAT)	Emergency Responders need to have knowledge about HAZMAT to respond safely and effectively to incidents involving hazardous materials. This training is crucial for them to understand: - • Importance of HAZMAT training. • HAZMAT Classification. • Signs and symbols. • Using Reference Materials. • PPEs. • Containment and Spill Control. • Decontamination and Cleaning. • Emergency Response Procedures. • Medical Considerations. • Scenario-Based Training. • Regulatory Overview.	2 Week	2 years	• SPD (Chaklala Garrison) • Pakistan Nuclear Regulatory Authority (PNRA)

Module No. 10

Title of Training	Purpose of Training	Time line		Training Facility/ Portfolio
		Training Period	Refresher	

Incident Command System (ICS)	For efficient and effective response to incident, it is important to understand the protocol and guidelines essential for every responder. This course will include: -
	• Introduction to ICS.
	• ICS Organization.
	• Incident Management.
	• Communication.
	• Planning and Coordination.
	• Operations: -
	  ○ Tactical Operations and Resource Deployment
	  ○ Risk Management and Safety Considerations
	  ○ Incident Containment and Control
	• Logistic and Supply.
	• Finance and Administration.
	• Safety and Risk Management
		1 Week	2 years	Emergency Services Academy Lahore

Module No. 11

Title of Training	Purpose of Training	Time line		Training Facility/ Portfolio
		Training Period	Refresher	
Camp Coordination and Camp Management (CCCM)	In order to provide assistance and settle the Disaster affected people on emergency basis, the Camp Coordination and Camp Management training is aimed at making participants proficient to: - • Define Camp Coordination and Camp Management. • Type of Camps. • Camp Setup and Layout. • Camp Administration. • Service Provision. • Safety and Security. • Community Engagement and Participation. • Logistic and Supply Chain Management. • Asset Management and Maintenance. • Finance and Budgeting. • Monitoring and Evaluation.	1 Week	2 years	• International Organization for Migration (IOM) • Emergency Services Academy Lahore

Module No. 12

Title of Training	Purpose of Training	Time line		Training Facility/ Portfolio
		Training Period	Refresher	
Urban Search and Rescue & INSARAG Methodology	The aim is to sharpen the INSaR team's skills following the INSARAG guidelines to conduct a unified operation in Disaster Response, especially in Earthquake Response. The participants will be able to Describe and demonstrate: - • Course Introduction • Organization of USAR Operations • Building Materials and Collapse Patterns • INSARAG Guidelines • INSARAG Marking System and ASR levels • Composition of the USAR team • Search and Rescue. Techniques • Structural Collapse. Operations • Use of Rope for Rescue • Confined Space Operations • Lifting and stabilizing heavy loads • Shoring • Hazardous Material. Response • Provision of First Aid • Canine Operations • Technical Rescue • Disaster Response • Safety and Risk. Management • Scenario-Based Training • 36 Hours USAR Simulation Exercise.	1 Month	2 years	Emergency Services Academy, Lahore

Module No. 13

Title of Training	Purpose of Training	Time line		Training Facility/ Portfolio
		Training Period	Refresher	
K-9 Search (Search with Dogs)	K-9 Training for Search and Rescue is crucial for: - • Locating missing persons. • To increase Search capabilities. • Accuracy and Reliability. • Time Saving. • Safety. • Trustworthiness. • Cost-effective. • Flexibility. Hence the brief contents of course are: - - Basic Obedience. - Scent Work. - Search Training. - Agility Training (Navigate Terrain). - Simulation Training - Locate live survivors. - Evaluation.	06 Month (Duration may vary depending on the organization/Dog Breed and individual dog's progress)	2 years	Army Dog Centre Kuldana Road Murree

Note: Each training would include theoretical as well as practical part. Successful completion of the course is mandatory for Natio nal Certification and the Passing Criteria depends on the organizational SOPs having training facility and upon recommendation of evaluators from Certification Committee. Training expenses will be borne by the trainees (concerned organizations) while facility will be provided by concerned trainers.

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