DEVELOPMENT OF JOINT CHEMICAL, BIOLOGICAL, RADIOLOGICAL, AND NUCLEAR (CBRN) RESPONSE CAPABILITY IN SOUTH ASIA: CURRENT STATUS & FUTURE PROSPECTS

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Abstract

Protection against the consequences and impacts of Chemical, Biological, Radiological, and Nuclear (CBRN) events remains a top concern in the national and international security framework of nation-states around the globe. The growing threats in the CBRN domain warrant attention to enhance capabilities for an effective CBRN response. The South Asian region requires even more comprehensive and integrated efforts to establish a mechanism for addressing these threats, given the region's complex geostrategic and security dynamics. The area lacks a well-developed coordination mechanism for sharing information and addressing cross-border contamination scenarios in the event of a CBRN incident. This paper aims to explore potential areas of cooperation, integration, and coordinated action among South Asian states at the regional level. A doable framework is proposed to develop joint regional capabilities for prevention, improved preparedness, and incident response strategies. It will focus on integrating the communication mechanism between the regulatory institutions of the participating states. It is emphasized that cooperation among states is crucial for practical accident assessments and the coherence of responses, which are essential for preventing CBRN events. It will help ensure the unified implementation of protective action plans, independent of national border lines, to effectively respond to CBRN incidents that could have critical regional and international implications.

Keywords: CBRN Events, Joint response capabilities, incident response, South Asia.

Introduction

The geostrategic and security dynamics of the South Asian region present highly complex challenges toward achieving peace and stability in South Asia as it hosts two nuclear weapon states (NWS - Pakistan and India), and six non-nuclear weapon states (NNWS - Afghanistan, Nepal, Sri Lanka, Bangladesh, Bhutan, and Maldives). The contemporary strategic environment of the region hinders their low economic progress, heightens security risks, including terrorism, and lacks institutionalisation of cooperative regional security approaches to address regional strategic and security

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issues.[1] This region faces serious challenges in inter-regional coordination due to the absence of a dynamic and actively working mechanism, such as a regional organisation, to discuss national security issues among regional states, beyond bilateral forms of security cooperation.[2] This strategic communication gap further exacerbates the CBRN threat, given the presence of non-state actors in the region, particularly in Afghanistan.

The geopolitical changes after the Iraq War in the wake of the 9/11 terrorist attacks have given plausibility to the threat of use of CBRN materials by both state and non-state actors, which have further added complexity to the security calculus of the South Asian region.[3] This complexity is fuelled by the increasing risk of CBRN terrorism, owing to the presence of terrorist groups and non-state actors (NSAs) that could attempt to obtain or deploy CBRN materials. CBRN weapons can be seen as an attractive option by these actors because of their potential to cause extensive devastation and panic among the masses.[4] NSAs can exploit vulnerabilities in the industries and systems handling CBRN materials, increasing the risk of intentionally lethal use of such materials by these actors. Given the volatile South Asian security situation, NSAs could engage in carrying out a terrorist attack involving CBRN materials to meet their political objectives, which strongly presents the possibility of CBRN risks becoming a reality in South Asia.[5] Furthermore, the potential for natural or accidental CBRN incidents is an added concern for nation-states. The region has witnessed the highest count of various such incidents, specifically chemical incidents, ranging from the Bhopal gas tragedy in 1987 to the Visakhapatnam gas leak in 2020.[6]

Besides added risks of natural or inadvertent CBRN incidents, any act of terrorism in the domain of CBRN, by an NSA or a group can destabilise the entire geostrategic environment of the region thereby unwittingly dragging the governments towards war or a military standoff, due to false identification/attribution of NSAs responsible for a CBRN attack. In the wake of any CBRN event in the region, all eight states, along with the two NWS of Pakistan and India, will be affected, which can lead to the eruption of a crisis, even a war. Such attacks may trigger afresh past hostilities among the states, specifically between NWS, igniting the differences to the level of traditional or non-traditional escalations against each other, which has also become visible from the eruption of recent military conflict between India and Pakistan.[7] Furthermore, any such kind of attack or incident will create fear and panic among the population at large, and will result into substantial damage (in form of loss of precious human lives, environmental contamination, and economic cost) not only in the state where the incident happened but it can also lead towards cross border contamination due to lack of cross border controls and prevention mechanisms.[8] The resultant cross-border crisis will have grave implications for the safety and security of regional states and the international community, necessitating immediate action.

In South Asia, the debate regarding prevention and protection against CBRN threats has evolved significantly, with serious efforts in the form of individual states' initiatives being observed in this domain. However, there is a lack of exhaustive efforts

to deal with this issue on the regional level, specifically among the nuclear-armed states, despite having specific official and unofficial protocols relating to nuclear issues.[9] In particular, the region lacks a comprehensively developed forum for joint ventures and activities related to CBRN, as well as a well-established legislative and policy framework for addressing CBRN threats. Thereby, it can be said that the region is in its infancy in developing cooperative coordination mechanisms for generating effective responses against CBRN events, requiring extensive preliminary efforts to craft a roadmap for developing and mounting coordinated responses against these potential threats.

The prevailing security situation in South Asia necessitates the development of joint policies to build capacity in dealing with CBRN threats, which is crucial for adequate preparation in the event of a future CBRN attack or incident. It is the need of the hour to implement specific confidence-building measures and foster cooperation through credible information sharing among South Asian countries to mitigate the threat spectrum and address contamination scenarios in the event of a CBRN attack or incident anywhere in the region. In this way, the area will enable its countries to prevent the unwarranted CBRN incidents and respond effectively while protecting critical infrastructure and building resilience to deal with unconventional aggression.

Against this backdrop, this research paper highlights the need to develop a joint CBRN response capability in the South Asian region. It aims to examine the existing mechanisms for coordination and communication within each responsible agency of South Asian states and assess the inter-state or inter-agency mechanisms relevant to CBRN prevention, preparedness, and response. The research paper will dwell on Regional Security Complex Theory (RSCT) and will further identify opportunities for enhancing coordination and communication among the regional states and a detailed proposal will be outlined where different regional states can play a collective role in developing a set of capabilities for generating a well-coordinated and effective response against CBRN threats through implementation of a doable framework. This proposal aims to take the first step towards developing the regional state's capacity for preventing and responding to CBRN incidents and promoting a clear understanding of different policy tools and operational arrangements that could be developed for dealing with potential perpetrators. The paper outlines the status and challenges, as well as the opportunities for coordination and an integrated response, the objectives of the proposed framework, the contours of the framework for developing joint capabilities and a coordination system, key stakeholders and actors, the implementation mechanism, and the funding mechanism.

CBRN Defence and Regional Security Complex Theory

In the 21st century, CBRN defence is a critical component of nation-states' security spectrum, shaping an inclusive picture of international security in the prevailing strategic environment, underlined by ever-growing unconventional and terrorist threats, which are highly sophisticated in nature and lethality. The subject of

CBRN defence has been approached from the lens of "Regional Security Complex Theory (RSCT)", espoused by Barry Buzan and Ole Weaver, which promotes security analyses at the regional level. A Regional Security Complex (RSC) is defined as a set of neighbouring states and their state relations, exhibiting unique, geographically clustered patterns and an intertwining of national security concerns, resulting in a strong interdependence of security grounded in regional clusters.[10] According to RSCT, states located within the same RSC have higher interactions than those situated in different RSCs, and their motivations and actions are interdependent with those of neighbouring states, having a heavily regional character, which gives a strong regional dimension to security concerns.[11] RSCT contends that security concerns generated in the immediate neighbourhood are strongly felt by the states, owing to the adjacency factor, and yield intense security interdependence within specific RSCs.[12] Therefore, states' securitization priorities in CBRN defense and the current status have been viewed through the prism of security interdependence, which heavily affects the stability and security of South Asia.

Here, South Asia is considered a regional security complex, where CBRN defense is examined within a regional security framework, collectively impacting the security of all regional states located in close geographical proximity and exhibiting strong patterns of security interdependence. It is implied that regional security dynamics will be significantly impacted if one state actor faces a CBRN threat, thereby necessitating a shared architecture to enhance the regional security landscape. Accordingly, the proposed framework for South Asia is derived from RSCT. South Asian states have a unique incentive to collaborate mutually on shared securitization priorities and establish a collective CBRN defense.

Current Status and Challenges Related to CBRN Preparedness and Response

The current situation in South Asia underscores that CBRN threats are a critical consideration in the security calculus of South Asian states, and they are taking serious steps to build preparedness and response capacities against these threats. The analysis primarily focuses on the critical NWS and the NNWS, considering their preparedness against the looming threat of the use of CBRN materials by both states and NSAs.

Pakistan drafted its Chemical, Biological, Radiological, Nuclear, and Explosive (CBRNE) Disaster Management policy in 2013 to address potential CBRNE events and initiate a swift response to mitigate them.[13] The policy provides basic guidelines for building essential capacities and revamping resources that further involve the creation of a nationwide Volunteer Corps. The National Disaster Management Authority (NDMA) is a central coordination authority and focal point responsible for preparation of CBRNE action plan encompassing multi-tiered response, creation of an effective organisation – Disaster Management Units (DMU) at various administrative levels, and for coordinating with various provincial organisations having the entire

necessary elements for responding in a CBRNE environment.[14] At the same time, Pakistan's Strategic Plans Division (SPD) is responsible for providing essential support and response from the key strategic organisations. Pakistan has established a comprehensive legislative and regulatory framework against CBRN threats, which includes the Strategic Export Control Act 2004, the National Export Control List (updated regularly), the Chemical Weapons Convention (CWC) Ordinance in 2000, and the CWC Implementation Rules (2010).[15] Pakistan is also a part of the Mega Port Initiative (MPI) and the Container Security Initiative (CSI). Pakistan has established a state-of-the-art CBRNe Training Centre at Chakri, known as the Pakistan Centre of Excellence for Nuclear Security (PCENS) and the National Institute of Safety and Security (NISAS), in collaboration with the International Atomic Energy Agency (IAEA).[16] In 2017, Pakistan joined the EU Chemical, Biological, Radiological, Nuclear, and Risk Mitigation Centres of Excellence Initiative (EU CBRN CoE). It became a member of the Regional Secretariat of Central Asia, which encourages local partnerships for CBRN Action Plans, policies, and the joint development of regional project proposals.[17] In addition, Pakistan is a signatory of various international treaties for dealing with CBRN materials including Convention on the Physical Protection of Nuclear Material Amendment (CPPNM/A), Convention on Nuclear Safety (CNS), International Convention for Suppression of Acts of Nuclear Terrorism (ICSANT), Biological Weapons Convention (BWC), Chemical Weapons Convention (CWC), United Nations Security Council Resolution (UNSCR 1540).[18]

In the case of India, the Indian establishment is focused more on strengthening the preparedness and response of its armed forces. It is investing considerable efforts to enhance its National Defence and Capacity Building against CBRN warfare in South Asia.[19] India is investing extensive resources to deal with military threats. The Ministry of Defence has developed a training curriculum to enhance the emergency preparedness of its Armed Forces Medical Services (AFMS). A focused approach has been developed by the Indian Defence Research and Development Organization (DRDO) to increase integration between different stakeholders both from the military (armed forces) and civilian side to create a well-coordinated response that will bring coherence in the overall response system yielding strengthened partnerships and coordination for bringing up national preparedness level.[20] Indian DRDO is rapidly developing new technologies and equipment to mitigate CBRN threats. It trains its military and paramilitary personnel through various CBRN training centres to deal with critical emergencies involving CBRN attacks. On the other hand, India is also attempting to respond to CBRN disasters at the national level, in the event of any potential accident or incident. The National Disaster Management Authority (NDMA) has the mandate and authority to provide civil defense. The National Disaster Response Force (NDRF) has been trained to generate a speedy response.[21] India has developed several governing tools that also address CBRN risks in a complementary manner, including the Weapons of Mass Destruction and their Delivery Systems (Prohibition of Unlawful Activities) Act, 2005, the Atomic Energy (Radiation Protection) Rules, 1971, the Chemical Weapons Convention Act, 2000, and the Biological Weapons Policy Regime.[22] Furthermore,

India is also collaborating with the World Health Organisation (WHO) South-East Asia Regional Office to strengthen health preparedness and response capacities against CBRN events within the South-East Asian Region.[23] Similar to Pakistan, India is also a signatory of international treaties for reducing CBRN related threats involving Convention on the Physical Protection of Nuclear Material Amendment (CPPNM), Convention on Nuclear Safety (CNS), International Convention for Suppression of Acts of Nuclear Terrorism (2005), Biological Weapons Convention (BWC), Chemical Weapons Convention (CWC), Missile Technology Control Regime (MTCR), and United Nations Security Council Resolution (UNSCR 1540).[24]

On the other hand, Afghanistan is also an active member of the CBRN Centre of Excellence initiative in Central Asia. Under the initiative, Afghanistan has developed its CBRN Action Plan, and coordination and communication among key sectors have been initiated to create a multi-agency approach towards CBRN risk mitigation and to strengthen coordination among various sectors.[25] This constitutes key efforts to adopt and implement various components of the CBRN response within Afghanistan. At the same time, Sri Lanka has a fully dedicated operational organisation, the 14 CBRN Regiment, Sri Lanka Engineers (SLE), for responding to chemical, biological, radiological, and nuclear emergencies.[26] However, no further data on Sri Lankan CBRN preparedness and response capacity could be found. Similarly, no open-source information was found regarding the current preparedness and response capacity levels for Nepal, Bangladesh, Bhutan, and the Maldives. However, some limited publicly available information indicates that, as part of international collaboration with the United States, certain states, including Sri Lanka, Bangladesh, and the Maldives, are also enhancing their readiness for CBRN emergencies.[27] In the same vein, under the capacity-building work of the Emergency Operations unit of WHO, Bangladesh, the Maldives, Nepal, Sri Lanka, and Bhutan are active member states that regularly participate in regional security workshops for emergency preparedness and response to natural, accidental, and deliberate CBRN events.[28] It is crucial to note that this particular limitation makes it challenging to analyze the current CBRN capabilities of these states in the South Asian region.

The limited availability of data on South Asian states underscores considerable challenges in developing a joint response capability in South Asia. States are in the preliminary stages of developing national CBRN action plans, building organisational capabilities and resources, acquiring equipment and trained personnel, and developing national coordination mechanisms for mounting defences against CBRN threats. The current developments showcase minimal capabilities among the nation-states in the South Asian region and highlight gaps in preparedness and prevention of possible CBRN attacks. No precise information could be found relating to the existing inter-state or inter-agency mechanisms for coordination and communication among South Asian states, which makes it an even more complex task to generate a well-coordinated response against potential CBRN threats. According to the requirements, any collective regional framework must outline regional priorities and strategic direction while building on shared challenges and opportunities. It is

observed that the possible set of challenges that nation states have to overcome in the region for developing joint capability include data privacy and limited sharing of information; varying organisational relationships of responsible agencies and legal authorities; limitations of resources and restricted access to cross-border jurisdictions; nonstandard sources and formats of information; differing public health and protection standards; standardisation of equipment and response procedures; language barriers; and financial issues.

Opportunities and Possible Areas of Cooperation

The analysis suggests that several areas could be leveraged to enhance cooperation, establish a strategic direction, build CBRN resilience among nation-states, and yield benefits for regional peace. These areas highlight opportunities for establishing regional priorities upon which cooperation and trust could be built. It is confirmed that collaboration and coordination must be carried out beforehand, prior to a CBRN incident or attack, to ensure effective inter-agency preparedness and response.[29] Attention must be paid to the preparatory phase, situational awareness, and provision of timely information and early warning to resolve unforeseen circumstances.[30] The possible areas of cooperation include early warning and event notification systems, support in detection and identification, health support, equipment, personnel, decontamination, containment measures, and remediation. The aforementioned set of challenges and opportunities needs to be addressed simultaneously, following an approach that prioritizes coordination over integration of the work of specific agencies and experts, while accommodating diverse values, operational methods, and standard operating procedures (SOPs) to develop a collective and shared response capability. Considering the outlined challenges and potential areas of cooperation, an effort has been made to draft a proposal that can serve as a regional roadmap for South Asian states to build collective CBRN response capacities.

Future Prospects and Proposal for Developing Joint Capabilities and Coordination System

In the wake of evolving CBRN threats and increasing possibility of usage of CBRN materials by non-state actors or terrorist groups, a plan for coordination and improved communication is mandatory not only for the individual states but also at regional level as the consequences of usage of CBRN weapons do not respect territorial borders and for dealing with cross-border contamination scenarios.[31] Considering the usage of chemical weapons in Syria and infectious disease outbreaks, the international community is at a crossroads in dealing with the demanding challenge of mounting defences against CBRN attacks.[32] To address this challenge, small concrete steps are needed to lead to practical actions and solutions to enhance preparedness and cooperation in building CBRN defences, along with an overarching goal of protecting people. The proposed framework will facilitate South Asian states to implement robust policies, practices, and procedures as a collective effort to operate and respond to

CBRN terrorism, along with improved awareness, knowledge, and understanding of the threat and risk. The proposed framework will examine practical modalities for responding and operating collectively and effectively during a CBRN incident or attack. If implemented practically, it can enable all the relevant responsible agencies to operate together and limit the damage.

Framework for Developing Joint Capabilities

It is established that the responsibility to deal with a CBRN incident lies with the state. Still, crisis management systems and tools for sharing information should be developed at a regional level. Developing CBRN response capabilities enables South Asian states to contribute to building a regional framework for preventing, responding to, and managing chemical, biological, radiological, and nuclear (CBRN) emergencies. To develop such capability, a foundation needs to be laid down first. For this purpose, work could be initiated by replicating a European Union CBRN Action Plan within South Asia, with appropriate amendments that address the regional realities and characteristics.[33] The framework for the South Asian region will be based on three areas: prevention, detection, preparedness, and response. These three areas or levels will be worked upon simultaneously to implement this initiative.

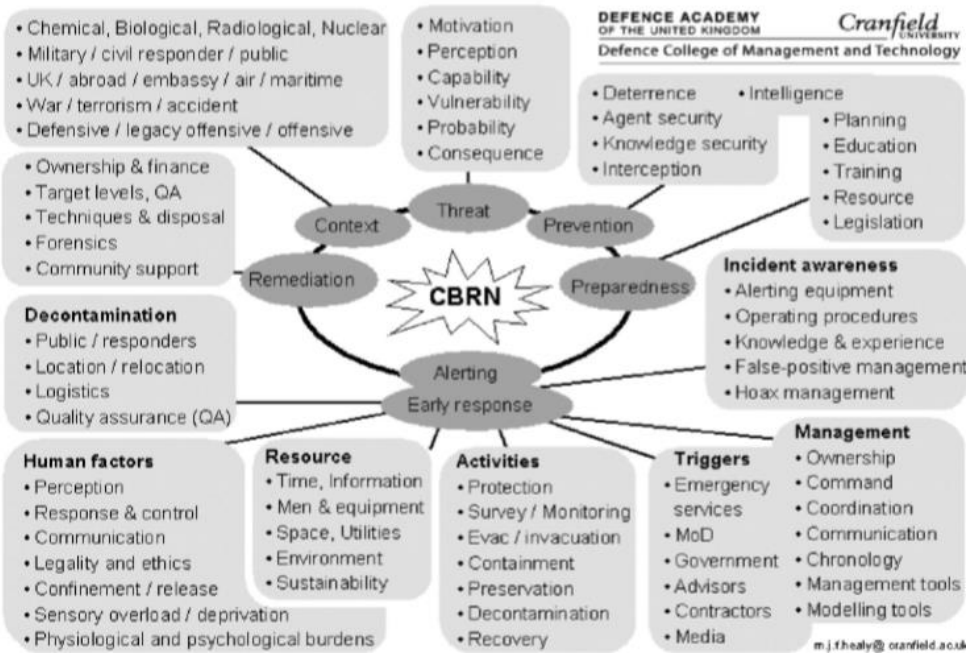
Framework Objectives

The main objective of the proposed framework is to develop a comprehensive understanding of CBRN risks among all regional states and identify the needs of the regional states via self-assessment and promoting policies and national plans of action to address the CBRN risks with the overarching goal of limiting the likelihood of CBRN incidents and their impacts and generating an adequate response if the risk materialises. The second most crucial objective is to build cooperation and trust among regional countries by developing coordination and communication mechanisms as a top priority for promoting enhanced support in dealing amicably with a CBRN attack by any state or non-state actors, and dissuading potential aggressors.

Contours of the Proposed Framework

The CBRN defence encompasses various components involving a diverse category of stakeholders, subject expertise, skills, procedures, and equipment that must be combined to address the CBRN threat. The core components and the related elements of the proposed framework are defined based on the CBRN Defence Model, which signifies the vast landscape of the CBRN defence field (Figure 1).

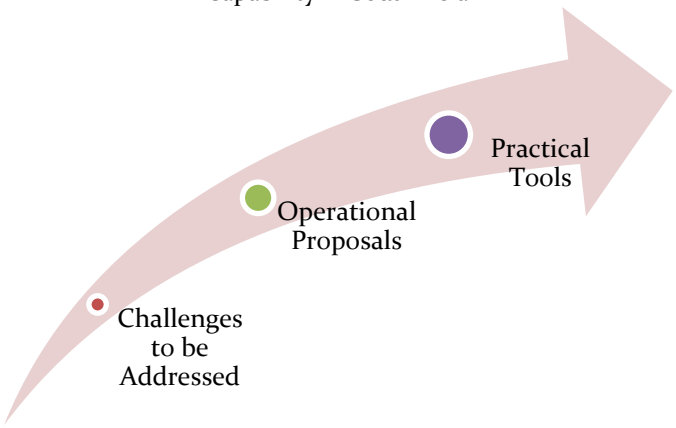
Figure 1: The CBRN Defence Model



Source: "CBRN Defence Model", Healy et.al, 2009, Defence and Security Analysis, 25(2), pg. 120.

The framework is structured in a way that addresses three core components for building up the joint response capabilities and capacity, which include (i) challenges to be addressed at the South Asian level; (ii) operational proposals; and (iii) practical tools. These components form the basis of the development and implementation of the proposed framework (Figure 2). Firstly, potential areas designated as challenges have been elaborated. Secondly, operational proposals have been suggested as solutions or recommendations to address the gaps. Lastly, practical tools have been proposed to implement the operational proposals in concrete steps and measures. These components are further summarised in Figure 3. The outlined components represent a solution-oriented methodological scheme in which problems are identified and solutions are presented as mandatory measures to improve cooperation and coordination within South Asia for preventing, detecting, and responding to CBRN threats. This framework will likely develop a joint regional programme that can be adopted and further developed to create a joint CBRN Response Capability in South Asia.

Figure 2: Structure of Proposed Framework for Development of Joint CBRN Response Capability in South Asia



Source: Authors' Elaboration

First Component - Challenges

Cooperation is required to address the prevention, detection, preparedness, and response to CBRN events at a regional level. Information and data exchange are the first challenges that need to be addressed collectively. Information exchange entails prioritizing and handling threat analysis, security controls, early warning systems, event notification, and alert systems, all of which are crucial for concerned member states. However, this process is further complicated by data privacy concerns and limited information sharing. Classification of an event is the second challenge determining the extent and level of assistance states require to respond to an incident and manage the consequences. Based on the classification of the event, the need assessment for assistance is the third challenge that must be addressed for a joint response, which entails providing health support, equipment, personnel, decontamination, and remediation. This is further complicated by resource and knowledge limitations. Investigation activities are the fourth challenge, involving detection and identification, which includes monitoring, surveying, chain of custody, and preservation, following constraints of varying organisational relationships and restricted access to cross-border jurisdictions. Response, joint operations assistance, and administrative aspects are the fifth challenge that needs to be examined in depth for the real-time mapping of resources and capabilities required for responding to a CBRN event and managing its consequences. It is a critical step in ensuring the adequate management of a CBRN event. It is complicated by different information formats, varying public health and protection standards, and differing SOPs and equipment that must be resolved through coordination while following a joint team effort. The sixth challenge that must be considered is the deployment mechanism, which is underlined by different regulatory and response bodies, control levels, tactical considerations, and language barriers. The last challenge is the limited finances for all these cooperative and coordination arrangements, which must be dealt with

judiciously and effectively without limiting the timely enactment and utilization of the response capacities.

Second Component - Operational Proposals

As a second core component of the proposed framework, a set of operational proposals has been put forward that could be used as a key instrument to address the outlined challenges. The first proposal suggests identifying local focal points, cooperation agreements, and adhoc agreements for sharing real-time information and data, and forming an information exchange system. Identifying vulnerabilities related to CBRN materials and determining the state's concerns and regional challenges in addressing CBRN threats has been recommended, allowing for interception and credible deterrence against potential aggressors. A legislative framework has been proposed at both national and regional levels to secure high-risk CBRN materials and curtail potential CBRN threats. Prioritizing high-risk CBRN materials, developing actions to enhance security and control over these materials, and improving transportation security within each country and at the regional level are essential considerations. Additionally, the development of an emergency alert system for CBRN emergencies and an integrated system for sharing and exchanging contamination levels have been suggested.

The second proposal involves developing a coordinated system for classifying events, alongside establishing bilateral arrangements to request assistance from neighboring states. This will facilitate a preliminary assessment of aid and help determine assistance needs upon the request of the affected state. The third proposal outlines the development of procedures and the designation of focal organisations responsible for humanitarian, technical, and sectoral needs assessment to generate an effective shared response upon request for assistance.

The fourth proposal addresses the investigation needs and outlines the formation of joint investigation teams. It has been recommended that methods and procedures for detecting CBRN materials, as well as technical detection standards, be developed and implemented to enhance the detection capabilities. Guidelines for border controls and the detection of CBRN agents should be developed, along with a mechanism for exchanging information regarding detection tools and systems. Furthermore, bilateral agreements concerning standard protocols for detecting and identifying have also been suggested.

The fifth proposal suggests cooperation agreements for developing an agreed-upon set of procedures for response and assistance. The development and maintenance of joint roster capabilities, response resources, skilled experts, and checklists for response team deployments and equipment, along with designated operations centers for responsible agencies, have been recommended. Development of guidelines for emergency management, crisis communication, measuring safety limits, consequence management, and joint response procedures for CBRN incidents has been proposed. Protective measures and countermeasures should be developed to

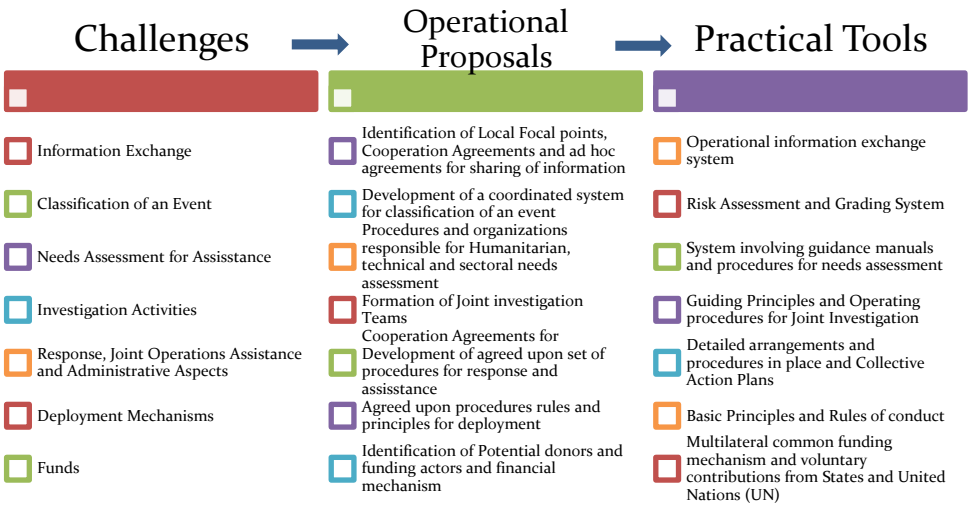
prevent cross-border contamination, and regulatory border controls should be strengthened to mitigate this risk. The development of decontamination mechanisms and remediation capacity at the local, national, and regional levels needs to be addressed. Capacity-building support and unified actions on the CBRN agenda should be designed to address the early phases of an emergency. Joint training centres and a standard curriculum should be developed to train first responders from the regional states. Establishing an information exchange mechanism for sharing best practices and experiences in raising awareness, training, and exercises should be considered. Deepening knowledge of CBRN risks through cooperation with other international actors, such as the European Centers of Excellence initiative, beyond regional states, is necessary for improving resilience and response to CBRN incidents. Pakistan and Afghanistan are already part of such initiatives.

The sixth proposal recommends defining agreed-upon procedures, rules, and principles for deploying assistance teams. Identifying regulatory bodies as a point of contact in emergencies under the banner of a regional assistance body has been suggested to coordinate this interagency response in the event of a CBRN incident in any affected regional state. The last proposal suggests identifying potential donors, funding actors, and financial mechanisms for collectively implementing these response actions.

Third Component - Practical Tools

The third core component of the framework builds on the operational proposals and represents a concrete final product for regional states' fully operational CBRN response capacity. The first tool involves formulating an operational information exchange system involving standard protocols and agreements for CBRN-related events. The second concrete tool consists of developing a risk Assessment and grading System for classifying a CBRN event. The third tool encompasses a system involving guidance manuals and standardised procedures for need assessment. The fourth tool includes guiding principles and operating procedures for joint investigations. The fifth tool involves detailed arrangements and procedures, as well as collective action plans for joint operations and assistance activities, to generate an adequate response. The sixth tool encompasses the basic principles and rules of conduct for deploying assistance teams. The last tool constitutes a multilateral common funding mechanism and voluntary contributions from states and international organisations, such as the United Nations or the European Union's CBRN defence mechanism, as part of the European Union's efforts to strengthen CBRN safety and security outside the EU region.[34]

Figure 3: Contours of Framework for Development of Joint CBRN Response Capability in South Asia



Source: Authors' Elaboration

Key Actors or Stakeholders, Implementation, and Financial Support

The key actors or stakeholders in this initiative include governments of concerned regional states, regulatory bodies, law enforcement agencies, radiation protection authorities, health departments, technical personnel, nuclear security experts, nuclear safety professionals, policymakers, the scientific community, and relevant international organizations. Implementing the proposed CBRN framework requires developing new working structures, including a CBRN task force, a working group, an advisory group, and a council of parties to initiate initial work on this issue.

SAARC could be the first platform for all eight nation-states to discuss CBRN threat prevention, protection, and response.[35] This platform could serve effectively in convening and developing the CBRN agenda, building consensus regarding CBRN threats, and making decisions for developing regional action plans. This primary platform could be used to articulate national and regional vision regarding CBRN threats prevention and capacity building. However, this platform has been dysfunctional since 2016, which highlights other essential regional and subregional tools operating in South Asia that could be considered for meeting this objective. These include three regional tools: (1) South Asian Network for Sustainable Development Goals (SANS), (2) South Asian Free Trade Area (SAFTA), and (3) South Asia Forum (SAF); and three subregional tools: (1) Bay of Bengal Initiative for Multi-Sectoral Technical and Economic Cooperation (BIMSTEC), (2) Bangladesh-Bhutan-India-Nepal (BBIN) initiative, and (3) South Asian Subregional Economic Cooperation (SASEC).[36] It is recommended that the South Asia Network on the Sustainable

Development Goals (SANS) and the South Asia Forum (SAF) could be used as possible forums to initiate talks for this particular proposal, and building on these preliminary discussions, a separate forum focusing on CBRN-related issues can be developed from that point onwards.

The complex question about funding is one of the most important ones to be answered, and a funding mechanism needs to be articulated to implement the specified framework. After developing a working structure, financial aid could be sought from the UN and the EU Chemical, Biological, Radiological and Nuclear Centres of Excellence (EU CBRN CoE) initiative.[37] Furthermore, the cooperating states could also develop a funding mechanism by channeling funding from countries' budgets and initiating joint projects to provide different training facilities.

Conclusion

In the face of evolving CBRN threats, South Asia needs to take immediate steps and pool its resources to address these potential threats. This initiative and proposed framework will be foundational in promoting cooperation and gaining tangible results. In this domain, Pakistan can also take a leading role by acting as a focal state in promoting this initiative and fostering cooperation among all regional states to implement it on the ground. It is emphasised that the concerned regional states should explore this opportunity and endorse this initiative to achieve significant security gains. Paying objective assessments to this proposal would help overcome security challenges and develop the Joint CBRN Response Capability in South Asia. This way, South Asia will ensure its joint response to any CBRN event and develop capabilities to prevent such attacks. Given the framework's success, this region will have an established platform to discuss challenges related to peace and security. Furthermore, based on the proposed framework's successful implementation and the states' willingness, CBRN-related networks can also be established in South Asia as a next step for promoting capacity building, which warrants further exploration in future research studies.

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