



RESEARCH PAPER

In the Line of Fire: A Provincial Coordinator's Account of Security Challenges in Polio Eradication in Balochistan (2015-2016)

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ABSTRACT

The Case Study is a first-person account of my experience as the Provincial Coordinator of the Emergency Operation Center (EOC) of Polio Eradication and Immunizations in the Balochistan province of Pakistan between 2015 and 2016 when there were unprecedented attacks on polio vaccination teams. This paper is a systematic analysis of 30 news articles about security incidents to explore the trends, the perpetrators and the outcomes of the violence on healthcare professionals and security officers. Findings suggest an alarming rise in attacks: starting with the targeted shootings in February 2015 that led to the death of a police officer in Zhob district and then the kidnapping and murder of five members of the team in the same district, and the suicide bombing of an event in January 2016 that killed 15 people outside a polio center in Quetta. Other terror groups including Tehreek-e-Taliban Pakistan (TTP) and Jundullah claimed responsibility citing the 2011 CIA vaccination hoax and alleged sterilization schemes as justification. The ensuing analysis highlights the weaknesses in the intelligence coordination, security measures, and community engagement measures. Despite these challenges, sacrifices by the personals from the Law Enforcement Agencies, the strength of local polio workers and security personnel most of whom continued their duties despite the risks; is a testament to their commitment in protecting children against polio.

Keywords: Polio Eradication, Security Challenges, Balochistan, Healthcare Workers, Militancy, Public Health Security, Pakistan

Introduction

The global initiative to eradicate poliomyelitis is one of the most grandiose health campaigns in the history of humankind. In 1988, the World Health Assembly launched the Global Polio Eradication Initiative (GPEI) in the process of which approximately 350,000 cases were reported every year in 125 countries (World Health Organization, 2015). This number decreased by almost 99 percent by 2015 with only Pakistan and Afghanistan remaining endemic (Global Polio Eradication Initiative, 2015). This great achievement hides a darker truth, in which the medical community has become frontline soldiers in an unwinnable war, and even the process of administering life-saving drugs to children has become a life-threatening activity.

The security issues have particularly hampered the efforts of polio eradication in Pakistan, unlike in all other endemic countries (Closser, 2015). The troubles faced by Afghanistan mainly owe to the hard terrain and war zones, but Pakistan has one more burden: the systematic, ideologically motivated attacks on the vaccination teams of militants. This problem rose to serious levels in 2011 when the Central Intelligence Agency (CIA) fraudulent use of hepatitis B vaccination program was announced as a cover-up to

monitor Osama bin Laden in Abbottabad (Khan, 2011). The consequences of this action transformed the security beliefs of polio workers fundamentally, reconsidering them as public health officials but a possible intelligence agent in the eyes of militant groups (Khowaja et al., 2015).

Balochistan, the largest, but least densely populated area of Pakistan has a particularly complicated operating environment. The province is simultaneously affected by a number of conflicts: a nationalist rebellion which demands more autonomy, sectarian violence between Sunni and Shia groups, the establishment of Afghan Taliban members who use Balochistan as a shelter zone, and the growing power of militant groups who have been displaced to the province as a result of the military operations (Muzaffar, et. al., 2018; Gul, 2014; Muzaffar, et. al., 2020). A Quetta based analyst commented on the fact that “in Quetta, it is not possible to know the people behind the attacks on polio vaccinators. The city is hosting more than a dozen outlawed groups that operate there” (The Diplomat, 2016).

As the Provincial Coordinator of the Emergency Operation Center (EOC) of Polio Eradication and Immunizations in the Department of Health in the years 2015-16, I was in charge of the vaccination campaigns in a region larger than France and characterized by difficult mountainous terrain, the porous borders with Afghanistan and Iran, and fragile security situation. My location placed me on the intersection of the priorities in public health and the security issues. All vaccination operations required careful planning: security assessment of 616 teams assigned, cooperation with all law enforcement bodies, the usage of the police and Levies officers as escorts and the backup plans in case of expected attacks (Dawn, 2015a). The Emergency Operation Center served as the main point of such activities, which combined intelligence reports, monitoring the progress of the campaign, and having a rapid response to security concerns.

The case study is the result of my personal experience in solving these issues, which is backed by a thorough research of documentary evidence of the period. The thirty-news article dataset, covering the period between February 2015 and February 2016 provides empirical data related to understanding the scope and nature of attacks during this crucial period. These materials, together with those maintained in records and my personal observations, explain trends in violence that were used to shape our operational responses and eventually influence the national polio eradication strategy.

The decision to write a case study is prompted by the fact that the time while I served as the provincial co-ordinator it is a very significant time in the history of polio eradication in Pakistan. The year 2015 was a pinnacle of violence against polio teams and the beginning of the strategic change of the approach to security issues in the program. From 2012 to 2015, about 70 polio workers and security personnel were killed in attacks throughout Pakistan (VOA News, 2015). However, in spite of this influential effect, there is a remarkable lack of systematic documentation of the security features of the polio eradication.

The case study is written due to a number of reasons. The attack on polio workers is a unique event in the world health. The systematic campaign targeting polio vaccinators in Pakistan represents a special ideological opposition to vaccination, which makes the healthcare system a battlefield, although in the course of history, the healthcare workers were subjected to violence in the conflict areas (Khan and Khan, 2015). Comprehending this phenomenon necessitates a thorough analysis of particular instances, patterns, and reactions.

Secondly, the 2015-2016 years became a period of change of the security environment and the approach to the work of the polio program. In June 2014 in North Waziristan, the military launched Operation Zarb-e-Azb, which began to disrupt militant networks in the tribal areas, which led some of the groups to move to Balochistan (The Diplomat, 2016). This migration spawned new security issues to Balochistan province with

groups that had previously been concentrated in the Federally Administered Tribal Areas (FATA) establishing footholds on the northern parts of Balochistan.

The Zhob incident in February 2015 was a very different type of an attack. The most frequent violence against polio teams in the past had been individual shootings of polio staff. The kidnapping of a whole team including two polio workers, a driver, and two Levies guards led to the later finding of their bodies riddled with bullets days later, which meant that there was a marked increase in the level of attacks, as well as the brutality of the acts. After the bodies had been located, one of the officials stated, "The situation is extremely strained, and the citizens are furious with the security services due to their difficulties in finding the attackers" (The Express Tribune, 2015a).

The January 2016 suicide bombing in the city of Quetta that claimed the lives of 15, mostly of the police and Frontier Corps, was an initial change in strategy towards attacking security forces rather than directing its assault on vaccinators. One of the survivors informed me about what happened; "There was a sudden, very loud explosion and I fell on the ground; the dust made visibility obscured. Then I could hear people screaming and ambulance sirens" (The Guardian, 2016; Uddin, 2016). Such development required more intense approach in our security measures.

This case study eventually seals a gap in the academic articles. Despite the fact that the epidemiological and public health perspectives on polio eradication in Pakistan are thoroughly researched (Bhutta, 2015; Kausar & Qayyum., 2018), there has been a lack of research examining the security factors regarding the issue in the perspective of the people who were involved in the operations. This study is aimed at filling this gap through the combination of documents analysis, personal observations and professional views.

Literature Review

Global Polio Eradication Context

Global Polio Eradication Initiative (GPEI) is one of the largest public health initiatives ever. Being 1988 as the significant year in the history of Polio, the number of cases spread around the world has decreased by more than 99 percent, which translates to approximately 16 million people who were saved from paralysis (World Health Organization, 2015). It is a strategy which has four pillars which include: routine immunization, supplemental immunization activities (mass vaccination campaigns), acute flaccid paralysis surveillance, and targeted mop-up campaigns in high-risk areas (Global Polio Eradication Initiative, 2015; Bukhari & Mujaddid, 2025).

Nonetheless, the last phases of eradication have demonstrated the most difficulty. By 2015, only three countries remained polio endemic; Pakistan, Afghanistan, and Nigeria, each with its own operational problems (Aylward and Heymann, 2015; Mehmood et al., 2025; Bukhari et al., 2024). In September 2015, Nigeria was removed after three years without any reported incidences, with Pakistan and Afghanistan remaining the last strongholds of wild poliovirus transmission.

Pakistan's Polio Paradox

The example of Pakistan is the illustration of the global health paradox: a country with well-developed healthcare systems and significant experience in the programs of mass immunization, but with the continued spread of poliovirus. There are several factors that explain this conundrum. Insecurity has been a long-standing problem in the Federally Administered Tribal Areas (FATA) and some parts of the Khyber Pakhtunkhwa province where militant groups take control of the territories and block immunization programs (Closser, 2015; Kausar et al., 2021). Secondly, widespread misinformation about the safety

of vaccination, including sterilization and contamination, has led to the refusal of vaccines among some populations (Khowaja et al., 2015). Third, the cross-border spreading of poliovirus can be achieved through population migrations along the Afghanistan-Pakistan border (Bhutta, 2015).

However, the eradication issue in Pakistan differs with that of other countries due to the security factor. From 2012 to 2015, a minimum of 70 polio workers and security officers were murdered in assaults (VOA News, 2015; Rabbani & Sarmad, 2019). The Diplomat notes that in Pakistan, some of the extremist Islamist terrorist groups are opposed to vaccination programs because of two main reasons. First, they see the campaigns as a Western conspiracy that would make Muslim males sterile. Secondly, based on their perception; they cite the case of Dr. Shakil Afridi who organized a fake polio vaccination program and collected DNA samples on behalf of CIA in an attempt to track down the former leader of Al Qaeda, Osama bin Laden (The Diplomat, 2016).

The CIA Vaccination Artifact and Its Consequences

The news that spread like a wildfire that the CIA used a fake hepatitis B immunization program as a cover under which they held intelligence operations in 2011 greatly changed the security situation of polio workers in Pakistan (Khan, 2011). The Pakistani doctor, Dr. Shakil Afridi who was alleged for organizing the fake campaign was put in jail on treason charges. This led to long-term apprehensions of militant groups that the vaccination efforts were used as a cover to carry out espionage.

The Taliban, in a statement, published in June 2012 by Commander Mullah Nazir, made it clear: Under the pretext of vaccination campaigns, the US and its allies are running their espionage networks in FATA, eliminating and destroying with drone strikes (Long War Journal, 2016). This was a declaration that infidel forces were using media, education and development as tools of oppressing Muslims.

The consequences of the polio workers were rapid and devastating. Vaccinators who previously had the freedom to move around the communities were targets. An observer said “that militant opposition to any kind of vaccination was on the rise after the CIA had organized a fake vaccination program to find a former leader of al Qaeda called Osama Bin Laden in a Pakistani garrison town, Abbottabad” (The Guardian, 2016).

Balochistan's Complex Security Landscape

Balochistan and security in Pakistan are rather contrasting in terms of the security situation. The province has a number of overlapping conflicts: a nationalist rebellion that demands more autonomy or independence, sectarian violence between the Sunni and Shia communities, the presence of the Afghan Taliban forces who use the province as a support base and the growing power of militant forces moved out of the tribal areas (Gul, 2014).

The provincial capital, Quetta, has been described as a hub of militancy, and some of the banned groups do their activities in this province. According to a Quetta based analyst, “there are more than a dozen outlawed organizations operating in the city. The TTP is also active in the Pashtun part of the province of Balochistan, which covers the northern part of the province” (The Diplomat, 2016).

The kidnapping and subsequent killing of polio workers in the Zhob district in February 2015 exemplified how insurgency has been transferred to the tribal areas to northern Balochistan. The district, bordering South Waziristan and Khyber Pakhtunkhwa was under increased insurgent activity after military operations in FATA.

Security Protocols for Polio Campaigns

The Pakistani government responded to the increasing threat by developing increasingly advanced security on the polio programs. The steps included the use of police and paramilitary escorts of the vaccination teams, micro-planning based on intelligence to identify high-risk areas, and the suspension of campaigns in districts with active security issues (GPEI, 2015).

In 2015, the scale of security implementation was quite significant. In Quetta, the Health Department set up 616 polio drop delivery teams that were escorted by police (Dawn, 2015a). The weakness of this strategy was unveiled by the January 2016 suicide bombing, as attackers targeted specifically security forces.

Material and Methods

The approach applied in this case study is a mixed-method one, including documents analysis, secondary data analysis, and personal reflection by the practitioners. The main source of data was the Excel spreadsheet, comprising 30 news items from 2015 to 2016 with the supplemental material of full articles in the Word document. The documents were systematically divided according to occurrence characteristics like the date, location, type of target, perpetrator claims, victims and effects of the operations.

The documents analysis is based on the accepted approaches to the qualitative content analysis (Hsieh and Shannon, 2005) and is based on the categories that are developed both inductively as the results of the research questions and deductively as the results of the material. Each event was classified by date and location, target (polio worker, security personnel, facility), type of attack (shooting, bombing, kidnapping), claimed culprit, number of dead and injured people and operational consequences. This paper included the documents analysis, as well as my personal experience as the Provincial Coordinator at this period. This will bring limitations regarding possible bias, but will offer unique information into the decision-making processes and realities on the ground that could not be gathered by documents analysis. When mentioned, personal observations are clearly recognized.

The limitation of this study is that the data is relied on media reports as the main form of data and this data can have errors or could be biased. Moreover, being a retroactive analysis, it does not capture the entire complexity of real-time decision-making processes. These limitations are reduced by the triangulation of multiple news sources when crucial events were covered.

Results and Discussion

A review of the 30 news stories reveals a disturbing pattern of violence against polio vaccination workers and their security guards. The documented events include a 13-month period between February 2015 and February 2016 having peaks of attacks during specific campaign periods. In February, 2015 a set of events occurred in the Zhob district, starting with the kidnapping of polio workers and security officers on February 14, a security operation and finally on February 17 bodies were discovered. The next cluster occurred in January, 2016, with the Quetta suicide bombing.

Detailed Incident Analysis

February 4, 2015: Shooting in Quetta

The first recorded incident occurred when a police officer was fatally shot by assailants on a motorbike on February 4, 2015, as he guarded a polio vaccination team in the Pashtunabad locality of the city of Quetta. It was mentioned that a police officer tasked

to guard a polio vaccination team in southwestern Pakistan was killed by gunmen. During his break at lunch, officer Zainullah was shot as he was leaving a mosque. It was also reported that a child who was passing by was also shot (Dawn, 2015a). The attackers were not caught, nor was an organization quick to take responsibility. This event reflected the common operational approach: the motorcycle-riding attackers are attacking individuals with a low chance of being challenged by the security guards.

February 14-17, 2015: The Zhob Kidnapping and Murders

The most dramatic event of 2015 began when three polio workers, and two members of the Levies were kidnapped on February 14 in the Zhob region. According to the reports of Dawn, the polio workers and levies staff started coming back to Zhob and lost their connection (Dawn, 2015b). Dawn received information about the polio workers, with the condition of anonymity, given by a Levies officer; "the families had not been in touch with the polio workers since this morning" (Dawn, 2015b).

The response was timely and meaningful. Approximately 200 Frontier Corps soldiers were engaged in a search operation by security forces that was assisted by helicopters (Dawn, 2015c). In the course of this operation, two suicide bombers exploded themselves in the middle of a gun battle, which reflected the level of militancy in the area.

The bodies were found on February 17th of 2015. According to the Express Tribune, the remains of a polio worker, his driver, and two Balochistan Levies constables, who were kidnapped four days before in Zhob district, were found on Tuesday (The Express Tribune, 2015a). The victims were shot dead and their bodies dumped in a distant place. According to a Levies official, some people who had passed through Gowal Ismailzai saw the bodies and reported to the authorities (The Express Tribune, 2015a). Those who died were named polio vaccinator Abdul Hameed, driver Abdul Samad and Levies constables Mohammed Ayub and Mohammed Naseem.

The revelation incited extensive demonstrations. According to the Express Tribune, every business and market in Zhob city is closed because of the appearance of relatives and citizens in the streets. One of the senior officials described the situation; "the situation is extremely tense, and the people are angry at security agencies because they fail to track down the offenders" (The Express Tribune, 2015a).

January 13, 2016: Quetta Suicide Bombing

The deadliest attack was on January 13, 2016, when a suicide bomber detonated outside a polio vaccination center in the Satellite Town of Quetta. According to the statement of Balochistan Home Minister Mir Sarfaraz Bugti, at least 14 people were killed and more than 10 injured in an explosion near a polio center in Satellite Town, Quetta, on Wednesday (Dawn, 2016).

The deaths were mostly of security staff. Balochistan Home Minister Sarfaraz Bugti announced that 13 of the killed were policemen, the other being an FC official (Dawn, 2016). The attack on the third day of a series of three immunization programs happened when law enforcement officers gathered to escort teams into the field.

The Tehreek-E-Taliban Pakistan (TTP) denied responsibility. According to Reuters, a special unit of the TTP launched an effective attack in the Satellite Town in Quetta and killed and wounded several security personnel (Reuters, 2016). However, Jundullah, a different group claimed to be the responsible party. Ahmad Marwat, who claims to be a spokesperson of Jundullah, announced; "we declare that we bombed the polio office and we will continue to carry out further attacks on polio vaccination centers and staff in the next few days."

Deputy Inspector General (DIG) Police Quetta Syed Imtiaz Shah said that the explosive used in the blast was seven to eight kilograms of explosives and that most people who died were policemen who died to save the life of polio workers (The Express Tribune, 2015b).

The atrocity was recorded in eyewitness accounts. The police officer Shabir Ahmed, who was shot with a shrapnel, told AFP; “all of a sudden I heard a great explosion, and fell to the ground, I did not see anything, there was too much dust. I then heard people screaming and ambulance sirens” (The Guardian, 2016).

SWOT Analysis

Strengths

- **Political Commitment:** Response to security events was one of unswerving political commitment to polio eradication both on federal and provincial levels. Following the January 2016 bombing, President Mamnoon Hussain and Prime Minister Nawaz Sharif strongly denounced the attack with the latter claiming that the government is committed to eliminating extremism in the country and that the operation will continue until terrorism is eliminated.
- **Security Force Deployment:** The level of security cover of polio campaigns showed a large amount of resource allocation. There were 616 teams in Quetta that were formed with police escort. The ability to react in case of emergency was demonstrated by the quick marshaling of 200 members of the Frontier Corps with the help of helicopters in Zhob.
- **Local Workforce:** The polio workforce consisted of local inhabitants familiar with their communities. This local knowledge was necessary to navigate around complex social processes and identify the risk areas.
- **International Support:** The polio program was highly supported internationally, including technical assistance of the World Health Organization, UNICEF and the Global Polio Eradication Initiative, which provided facilities and expertise otherwise inaccessible to other health initiatives.

Weaknesses

- **Intelligence Gaps:** Despite the fact that there were many intelligence agencies, actionable intelligence was still lacking. The February 4, 2015 gunshot incident took place despite the presence of security forces, and the kidnappings in Zhob took place despite the presence of law enforcement agencies in the area.
- **Resource Constraints:** The security forces were overstretched as they were called upon to protect not just polio programs but other vital facilities. The Levies force who had most of the security in rural areas was not fully equipped and under-resourced.
- **Coordination Challenges:** The coordination with civilian health authorities and other security forces such as the police, Levies, Frontier Corps and the intelligence services were often cumbersome. Various agencies had different reporting structures, modalities of operation, and priorities.
- **Community Trust Deficits:** The CIA hoax on vaccinations was a huge blow to the trust in vaccination programs. Islamist extremists called actual polio workers as Western spies.

Opportunities

- **Military Operations:** In 2014, the start of the Operation Zarb-e-Azb gave a chance to reduce the insurgence forces in the tribal territories. Though some of the terrorists moved to Balochistan, the net effect of systems developed was less effective.
- **Community Engagement:** The documented protests following the killings at Zhob were the anger of the community towards the use of violence on local polio workers. All the stores and markets of Zhob city were closed after the appearance of relatives and citizens in the streets. This opened a chance to mobilize community opposition to extremists.
- **Technological Advances:** The technological achievements in the field of security, including the improved communication devices and surveillance systems, could strengthen the safety of polio teams.

Threats

- **Militant Capacity:** The fact that militant organizations were able to carry out coordinated attacks such as the one in Zhob abduction and the suicide bombing in Quetta meant that there was a high level of operational efficiency. The involvement of numerous groups (TTP, Jundullah) is an indication of a general consensus on attacking polio programs.
- **Tactical Evolution:** The switch to kidnappings and suicide bombings as opposed to targeted shootings showed that the threat was increasing and that the security measures would require a change.
- **Displacement of Militants:** The insurgents are forced to Balochistan by military activities in the tribal areas, thus creating new security problems. It has been noted that after a military crackdown, Islamist terrorist groups have supposedly moved to the northern part of Balochistan and Quetta where polio workers were repeatedly being targeted (The Diplomat, 2016).

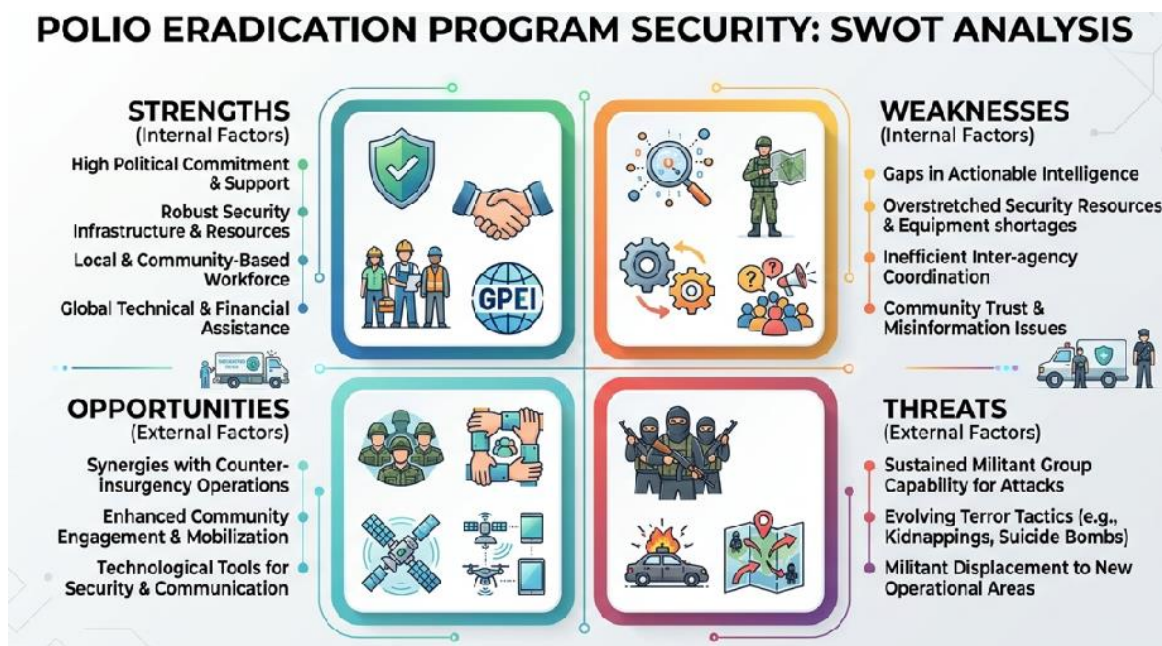


Figure 1: SWOT Analysis For The Polio Eradication Program Security In Balochistan (2015-2016)

PESTEL Analysis

Political Factors

The 2015-2016 Balochistan politics could be characterized by an array of overlapping conditions. The provincial government faced challenges in putting in place control to the security apparatus. Operation Zarb-e-Azb in the tribal areas by the federal government had significant consequences to the Balochistan province with militants forced out of the FATA taking refuge in the northern districts of the province. The political dedication to polio eradication continued, with denunciation of attacks in the highest ranks without ceasing. However, it turned out to be difficult to transform political will into a successful security cooperation.

Economic Factors

The lack of funds hindered polio eradication efforts in several aspects. The polio staff was poorly compensated, which, though reducing costs, made hiring them difficult, and possibly increased their vulnerability to corruption. The Levies force, which was crucial to the security of the rural areas was also significantly under-funded. The general economic situation in Balochistan, a resource rich province, with a significant level of poverty and underdevelopment, created the atmosphere conducive to militancy. The economic discontent was exploited by nationalist and violent movements.

Social Factors

The most complex part of security dilemma was social factors. The perceived CIA deceit of vaccination has created a deep distrust of vaccination programs among some groups. The perception that the AIDS is carried out by a Western conspiracy to sterilize Muslims had taken root in some areas (The Diplomat, 2016). However, the social surrounding was not all hostile. This situation resulted in the development of a wide social capital of the communities which were served by the polio workers as the majority of them were locally hired. The protests that followed the Zhob massacres were characterized by solidarity on the part of the people with the people affected by the killings.

Technological Factors

The technological factors influenced the polio initiative and the security operations. Micro-planning of vaccination efforts was more effective in targeting the efforts. However, the capability in technology was still uneven, with the rural areas lacking communications infrastructure. For security forces; the technological resources, such as helicopters in Zhob provided mobility advantages; however, in many areas, security was limited by insufficient sophisticated technology in surveillance.

Environmental Factors

Balochistan terrain was quite a subject of environmental concerns. The large and rugged terrain of the province, which is characterised by mountains and desert regions made security operations difficult. The Zhob district, where the abduction took place in February 2015, is characterized by the rough terrain and poor road system, which gives enough opportunities to hide to terrorists. The permeable boundary with Afghanistan and Iran posed more difficulties. The fact that militants can move across national boundaries and that safe havens may be available has undermined security efforts.

Legal Factors

The law on counter-terrorism operations included the National Action Plan, which was established in response to the 2014 Army Public School shooting. Counter-terrorism laws in Balochistan could not be implemented because of the unique politics of the province. The cooperation is affected by the legal status of the Levis force, which is a locally recruited tribal police that is independent of traditional police. The arrest of Dr. Shakil Afridi as a traitor set a precedent in the court of law that was argued to have undermined the credibility of vaccination programs. The continued court proceedings on his case continued as a controversial issue all the way through.

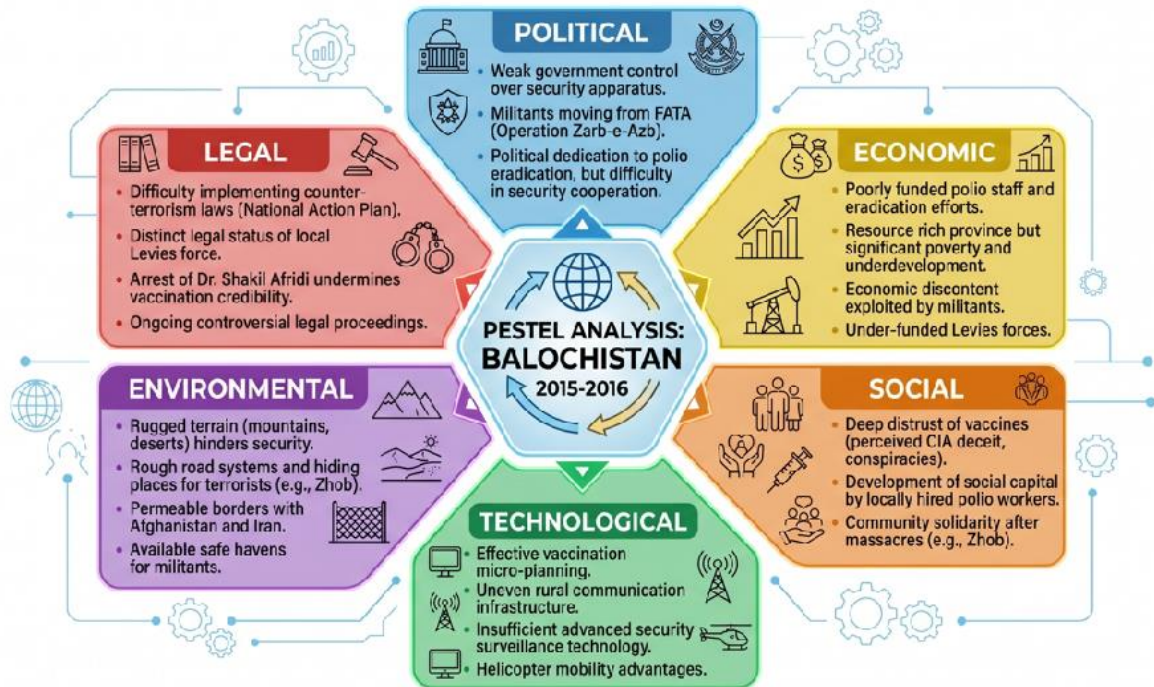


Figure 2: PESTEL Analysis For The Attacks In Balochistan (2015-2016)

Perpetrator Analysis

Groups Involved

Analysis of claims of responsibility reveals involvement of multiple militant groups:

Tehreek-E-Taliban Pakistan (TTP): In January 2016, the TTP claimed responsibility of the Quetta bombing. A TTP special unit carried out an effective attack in the Satellite Town area of Quetta that killed and wounded several security officers (Dawn, 2016). The involvement of the TTP was not a surprise because it had historically opposed polio immunization. According to the Long War Journal, the leader of the Movement of the Taliban in Pakistan, Mullah Fazlullah, was one of the first leaders to reject the use of polio vaccination (Long War Journal, 2016).

Jundullah: The Quetta attack was also said to be carried out by the offshoot organization Jundullah which vowed to ISIS. As stated by Reuters, one of the leaders of Jundullah, Ahmed Marwat, who identified himself as a spokesperson and commander of the group, claimed that his group was responsible (Reuters, 2016).

Jundullah (Balochistan): This group claimed responsibility behind the November 2014 attack on a polio team in Quetta that led to the death of four workers with three of

them being women. The February 4, 2015 shooting, was not accompanied by an immediate claim of responsibility, but the modus operandi was consistent with the past Jundullah operations.

Motivations

Analysis of perpetrator statements reveals consistent ideological motivations:

Anti-Western Sentiment: Polio immunization was seen by militant groups as a Western conspiracy. The TTP opposed the idea by arguing that the vaccination programs were merely a cover-up to carry out espionage, a notion that was supported by the vaccination mislead of the CIA.

Suspicion of Sterilization: The claim that polio drops were used to induce sterility was often mentioned. In the eyes of the radical Islamist militant organizations, the programs are a Western conspiracy to make Muslim males sterile (The Diplomat, 2016).

Revenge for Drone Strikes: Some of these groups directly linked anti-vaccination to anti-US drone attacks. In June 2012, a leaflet issued by Mullah Nazir claimed that infidel forces were using media, education, and development as a tool to oppress Muslims (Long War Journal, 2016).

Operational Impacts

Campaign Suspensions

Polio campaigns were usually halted temporarily due to security factors. After the January 2016 explosion in Quetta, the campaign was put on hold. Reportedly, after the deadly attack, the polio campaign was temporarily stopped (Al Jazeera, 2016). Every day of suspension signified thousands of unvaccinated youngsters.

Security Protocol Evolution

The trend in attacks led to the continual development of security measures. After the Zhob abduction, plans of operation in remote areas were reviewed. After the explosion in Quetta, the assembly point procedures were changed. Diversification of the departure schedules and routes were significant changes to reduce predictability, screening at assembly points, increased use of the intelligence-based micro-planning, and more emphasis on community engagement.

Workforce Impacts

The attacks had a tremendous impact on the polio employees. Fear and trauma affected the existing employees and hiring. A Quetta based polio official reported that Since 2012, the province has seen about twelve vaccinators assassinations. All the deaths were local Balochistan nationals who were involved in this noble cause of polio eradication from Pakistan under low wages compensation (The Diplomat, 2016).

Epidemiological Consequences

There are direct epidemiological impacts of the security crisis. In 2014, 25 polio infections were reported in Balochistan which were reduced to seven cases in 2015 (The Diplomat, 2016). This was a sign of progress but due to the constant attacks, the progress was threatened.

Conclusion

Between 2015 and 2016, Balochistan became a central stage of attack on polio eradication in Pakistan, with militant groups like the TTP and Jundullah stepping into the arena with more frequent targeted assassinations, and devastating suicide strikes. My experience as Provincial Coordinator at this time proved that despite the need of political commitment and the valour of frontline workers, they are often undermined by lack of intelligence and changing strategies by militants. This case study explains that the protection of health workers who act as medical authorities and as an extension of the state engaged in the noble cause of eradication of polio from Pakistan.

In order to move forward we need to change our reliance on guns and guards to a policy of community-based protection and intelligence cooperation. Addressing the underlying violence factors, the deeply rooted mistrust in the community, is key to lasting progress. Although Pakistan made significant improvements as of 2016, the important lessons learned in Balochistan remain a source of a global example of ensuring the security of the population in terms of public health. The health safety of health workers and the success of eradication all depends on transforming the immunization into a high-security project into a community ownership project.

Recommendations

Based on analysis of the documented incidents and operational experience, I offer the following recommendations:

Intelligence and Security

- **Strengthen Intelligence Coordination:** Introduce institutionalized systems of intelligence sharing between security organizations and health departments along with provision of clear-cut guidelines on how the information on danger should be disseminated to polio responders. The case of the Zhob incident showed that actionable intelligence could have been used to prevent the abduction.
- **Invest in Protective Technologies:** Install better communication gadgets, surveillance, and armored vehicles to the polio teams in the high-risk areas. The absence of such technologies in the remote locations made teams vulnerable.
- **Enhance Security Force Capacity:** Provide adequate resources, training, and gear to police and Levies officers protecting polio campaigns, such as specialized training on counterinsurgency activities. The under-resource Levies forces demonstrated a considerable lack of achievements despite their dedication and commitment.
- **Develop Flexible Security Protocols:** Invest in security systems that react to evolving patterns of danger, with varying times of departure, routes and assembly-configurations to avoid predictability as demonstrated by the Quetta bombing where patterns were predictable.

Community Engagement

Invest in Community-Based Protection: Develop systems of community-based protection of polio teams and capitalize on the apparent willingness of communities to fight against violence against local health workers as was demonstrated in Zhob protests.

Engage Religious Leaders: Systematically engage religious leaders in supporting vaccination, disproving vaccine safety assumptions and address religious concerns. Counter-narratives of the same nature are needed to combat the ideological opposition to vaccination.

Strengthen Communication Campaigns: Participate in continuous communication campaigns that can overcome vaccine safety concerns and make a distinction between polio vaccination and intelligence activities. The heritage of the CIA misinformation about vaccines requires explicit and systematic denial.

Support Local Workforce: This is by recognizing the valuable input of local polio workers by giving them proper remuneration, psychosocial support and recognition of their service. Those who died as a result of their sacrifices; their immediate families should be compensated by all financials and other support mechanisms.

Programmatic Adaptations

- **Develop Remote Vaccination Strategies:** Formulate plans to access children in locations with compromised security, incorporating community-based immunization methods that reduce dependence on security escorts.
- **Strengthen Surveillance:** Augment acute flaccid paralysis surveillance to detect poliovirus transmission independently of vaccination initiatives in high-risk regions.
- **Integrate with Other Health Services:** Incorporate polio vaccination into broader health services to diminish the prominence and political significance of polio campaigns.

Policy and Advocacy

Innovative Strategies: Develop strategies to reach children in places where security has been compromised, and involve community-based approaches to immunization, which do not rely on security escorts.

Engage the International Community: Increase the surveillance of acute flaccid paralysis in high-risk areas that are not dependent on vaccination programs to identify the transmission of poliovirus.

Document and Report: Use polio vaccination as part of a larger health initiative to reduce the political salience and importance of polio campaigns.

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