Political Economy of Poliomyelitis (India Case Study)

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Abstract

Following successful elimination of smallpox globally, international health agencies united for eradication of polio. In 1988 World Health Assembly (WHA) passed a resolution to launch Global Polio Eradication Initiative (GPEI). India adapted GPEI in 1994 based on evidence of successful campaigns in regional countries. Program was piloted in 1994 and launched nationwide in 1995 as Pulse Polio Program (PPI) with the initial objective of eliminating polio by year 2000 and achieve polio free certification by year 2005. GPEI was spearheaded by World Health Organization (WHO), and worked in collaboration with different international agencies and was also supported by Government of India (GoI). From the very beginning PPI was publicized and supported by local health officials, politicians and celebrities. India was polio hyper-endemic country reporting almost 5000 polio cases annually in 1995. Until 1999 PPI relied on vaccinating children under 5, by conducting National Immunization Days (NIDs). National Polio Surveillance Program (NPSP) was established in 1997 for capacity building and reporting of disease. Over the years program faced many programmatic and implementation challenges leading to delay in achieving targets. Most important challenge was failure to vaccinate among few key challenges. To confront these challenges multiple innovative midcourse corrections were made including missed house strategy, transit point vaccination, new born tracking, vaccination of migratory population and vaccinating at special festivals like Eid, Diwali. Teams were trained to answer myths and beliefs of people regarding vaccine and approached religious leaders also for help. Research in field of vaccine was encouraged and more efficient monovalent OPV and later bivalent OPV were introduced to overcome vaccine failure. India reported last case of polio in 2011. Despite enormous and diverse population, unhygienic conditions and many other challenges India succeeded to eliminate polio by proper planning, sustained funding, clearly defined roles and responsibilities and timely monitoring and feedback.

Keywords: Polio, Vaccines, Campaigns

Abbreviations

AFP: Acute Flaccid Paralysis; CDC: Centers for Disease Control and Prevention; CGPP: CORE Group Polio Project; EPI: Extended Program Of Immunization; GEPI: Global Polio Eradication Initiative; GoI: Government of India; MoH: Ministry of Health; NID: National Immunization Day; NPSP: National Polio Surveillance Project; OPV: Oral Polio Vaccine; Polio: Poliomyelitis; PPI: Pulse Polio Immunization; RI: Rotary International; SMNets: Social Mobilization Network; SMO: Surveillance Medical Officer; SNID: Supportive National Immunization Day; UNICEF: United Nations

Children's Fund; USAID: U.S. Agency for International Development; WHA: World Health Assembly; WHO: World Health Organization; WPV: Wild Polio Virus

Background

The worldwide battle against polio began in 1988 with an introductory course of events to annihilate the infection by 2000. Notwithstanding actual progress in India just began in 1995 when worldwide organizations lined together with the Government of India (GoI) and local authoritative bodies, and large number of healthcare workers and social volunteers along with local resident gathered to dispatch a mass crusade.[1-3]

This policy analysis paper tries to articulate implementation issues related to polio eradication and lesson learned from India's policy prescription using available policy tools and technology. The specialized impediments in India that were thought to be the most noticeably awful on the globe, hereafter unconquerable; in spite India's polio drive demonstrates that WPVs can be eradicated elsewhere where the hindrances are in fact less considerable. While India had the capacity to encounter the programmatic insufficiencies, somewhere else these stay imposing by virtue of socio-political reasons.[2,3]

Salient Features of the Policy

Following are the salient features of polio policy [3,4]

World Health Assembly (WHA) accentuated on need to actualize polio program in a manner to fortify routine health system functions.

Polio mass vaccination campaigns; with a specific end goal to enhance the scope routine inoculation by expanding immunization understanding.

Addressed social inequities in immunization coverage in regard to religion, gender, wealth, caste and race etc. and prevail over these disparities in immunization, for instance occupational caste identified by GoI as socially retrogressive are more inclined to be vaccinated as contrast with Scheduled position and the Scheduled tribes.

Maintain high level of vaccination coverage among children (at least 3 doses of OPV)

Developing sensitive system for lab and epidemiologic surveillance

Vaccinating all children during NIDs and SNIDs.

Mop up vaccination campaigns[3]

Rationale for Choosing the Particular Topic

Rationale for selecting India's case study, lies in the story of eradicating polio and triumphant implementation of polices. India is the last one who thrives in eradicating polio. The Indian Polio eradication program studies have also underscore the post eradication polio strategy designed to capitalize on this new opportunity of polio free zone. Another reason being the similar nature of context and challenges as Pakistan is facing against polio.

Policy Analysis Framework used with Appropriate Justification

We are using Walt & Gilson triangle of policy analysis. The reason behind selecting Walt & Gilson model (1994) is its simple comprehensiveness that covers all the constituent of policy pillars and inter-linkage each entity (process, context, content and actors). Also it does not reject nor fully support either of the traditional approaches (rationalism and

behaviorism). It juxtaposes both the approaches and incorporates their views by arguing the importance of policy content, context, process and role of actors (or Interest groups).

Since objectives of this paper is to look political economy of polio, so this model is the most appropriate one as it offers a broader framework and is closer to political economy approaches. Besides, this is a retrospective analysis and this triangle of policy analysis provides opportunity to analyze policy (Figure 1) prospectively as well as retrospectively.[5]

Context

Macro level factors

Global level: Polio eradication campaigns were very successful in America and Europe, followed by these encouraging results of polio campaign and successful elimination of Small pox.

Regional level: neighbouring countries like Thailand and Bangladesh conducted national immunization days in 1994-95 with successful coverage of 95% children under 5. Results were impressive and followed by a drop in new polio cases

National level: single disease (vertical) programs like malaria, TB control program were successful in India.[2] Successful elimination of small pox due to these single diseased and sharper focused programs laid strong foundation for polio eradication program. India adapted Extended Program of Immunization (EPI) in 1974, after its global launch by WHO in 1974.[6] OPV was included in EPI India in 1979 (in urban areas) and 1982 (rural areas).[7]

Micro level factors [3,7]

Situational: polio epidemic in late 80s on already hyper-endemic situation.

Structural: GoI mobilized all machinery to this cause, SMOs were deployed throughout country, volunteers, politicians, religious leaders stood for cause and volunteers and social mobilizers played important role.

Environmental: a global drive to polio, and donor assistance and funds flow for this cause.

Cultural: Myths regarding polio vaccination as an American maneuver to sterilize Muslim Population.

Content

Pulse polio immunization (PPI) program was launched in 1995 with objective of eradicating polio by the year 2000 and receiving eradication certificate by 2005. But later on these targets were revised as eradication of polio by year 2002, 2007.[8,9] Content is already mentioned under heading of Salient features.

Process

This was a top down approach, where international agencies took a lead role with support of GoI. Following this global drive for polio and donor support India piloted first polio campaign in New Delhi targeting one million children up to 3 years. One year later India launched nationwide PPI which focuses on vaccinating children under 5, by nationwide campaigns called as National Immunization Days (NIDs). During NIDs children were vaccinated at fixed booths twice a year. As a result WPV 2 circulation interrupted by 1999.[6] A strong surveillance program is needed for a successful disease

control, so National Polio Surveillance Project (NPSP) is established for polio eradication in collaboration with DANIDA, WHO, CDC.[10]

PPI was very well publicized from very beginning as it gained support from local health officials, politicians and celebrities.[6,8]

In 1999 India was divided in low, medium and high risk areas, and SNIDs were held in medium and high risk areas.

UNICEF established Social Mobilization Network (SMNets) for social mobilization in 2001. Major task of these nets was to go into communities and counsel parents and educate them regarding any prevailing myths and misconceptions.[2]

Actors

Important stakeholders, their involvement and interest in issue and their power and positions are listed in following Table 1.

Process of Formulation and Implementation

Formulation

Agenda setting: Despite successful elimination of smallpox, many professionals and stakes holder were skeptical to adapt polio eradication, as they polio eradication beneficent to rich countries only. Polio advisor to WHO, Dr. Jon Andraus and Director of national immunization program of India. Dr. Kaushik Banerjee, were two persons who successfully negotiated with these opposing groups, and advocated polio eradication on strong epidemiological evidence of polio vaccine success in regional countries like Thailand and Bangladesh. Dr. Andrus made data rich presentation to MoH, showing success of polio vaccine globally. Besides MoH, Dr. Andrus and Banerjee made coalitions with political parties including BJP, which was in power in Delhi. In 1994 Health minister of Delhi, Harsh Vardhan announced 1st polio campaign on 2nd October (Mahatma Gandhi's birthday). This was a big breakthrough and got support from all major political parties, as this campaign was launched on Mahatma Gandhi's birthday.[3]

The difficulties the India has experienced amid plan setting were India's elected structure that entangles activity on a national scale (Unitary form of Government). The states have significant obligations regarding health not at all like USA which have federal form of government.

Implementation

This initiative was very flexibility in its implementation strategies. Micro plans were made at district level. A District task force (DTF) is formed which is controlled by the district magistrate. Different strategies involving traditional door to door campaigns and new innovative strategies like transit points and many more were introduces according to special needs and opportunities.

Serious issues encountered at implementation level such as: inaccessibility due to insecurity, sub-optimal performance of routine immunization, prevailing myths related to polio—infertility, the suspension of door-to-door activities in security-compromised high-risk districts/areas. All these issues were categorized as failure to vaccinate and failure of vaccine. To face these challenges multiple innovative midcourse corrections were made including missed house strategy, transit point vaccination, new born tracking, vaccination of migratory population and vaccinating at special festivals like Eid, Diwali. Teams were trained to answer myths and beliefs of people regarding IOPV. For this purpose support of local and religious leader were taken and also social mobilizing

groups like SMNets were created. To face the challenge of failure of vaccine, research in field of vaccine was encouraged and more efficient mOPV and later bOPV were introduced.[3,4,6,11] India's thickly densely populated cities; unhygienic conditions were also an important challenge encountered during implementation. UNICEF arranged health education sessions and water and sanitation (WASH) program to tackle this issue.

During the course of implementation the major challenges encountered by India; includes thickly populated states; both ecological and natural variables make for a high routine disease among Indian youngsters, the key populace for polio eradication (Table 2).

A strong monitoring and evaluation system was in place at all levels i.e. district, state and national to provide reliable and timely data for appropriate and immediate programmatic action.[4]

Reasons/ Factors for Success of Policy

Following are the key positive findings that turned into ultimate success[3]

Strong commitment of GoI

Joint efforts of international agencies and GoI

Clearly defined roles and responsibilities of people involved

Robust publicizing strategies

Adapting the basic concepts to local needs, in micro-communities and micro planning accordingly

Reconsiderations to the strategy looked in the form of multi-layered planning

Innovative techniques for marketing by involving celebrities

Community mobilization

Lessons and Policy Implications for Developing Countries

India's polio eradication case is very important for three remaining polio endemic countries. Following policy implications can be drawn:

A disease eradication campaign is not just a medical affair as it is running in Pakistan (9) it involves inter-sectoral approach with interplay of government and non-government representatives including all relevant stakes holder like policy makers, policy implementers, clergy (regional ulema) and health workers.

To fill existing gaps by reinforcing routine and particular measures like NIDs and SNIDs

To avoid dependency on donors and foreign aid, encourage institutional capacity building and strengthening.

Proper implementation of polio eradication program is possible through considering content, contextual, operational, leadership, cultural and social factors along with surveillance and proper accountability.

Conclusion

Polio eradication is not medical affair only but it requires multidimensional understanding of social, cultural and health systems related realities and multi-sectoral approach is crucial for its eradication. Strong political commitment, sustained funding,

multilayer planning, micro level implementation and timely feedback is key to success for achieving polio eradication.

Yet the biggest challenge is the post eradication phase. The key elements in global thinking is the about post eradication work are sustaining strong program of routine immunization, shifting from live to inactivated virus vaccine and maintain surveillance. The interplay of Macro and micro level factors are at high level and if contribution of these factors become strong and positive; these factors will ultimately transform challenges into triumphant.

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Table 1: Role of actors, their involvement and interest in issue.

	Involvement in the issue	Interest in the issue	Influence/ power	Position/ mobilization
International Actors				

World Health Organization (WHO)	High Policy formulation, Implementation	High Training, immunization monitoring, , research, polio end game strategy, establishment of NPSP	High Both at national and international levels	Supportive
Rotary International	High Policy formulation, Implementation Hygiene and health related activities	High Creating awareness of campaign, Attracting donors, Advocacy and gaining confidence for campaign where there is resistance	High	Supportive
United Nations Children's Fund (UNICEF)	High Procurement of vaccines until 2009, Social mobilization, research	High	High	supportive
CDC	High Formulation Implementation	High	Medium	Supportive
DANIDA	Moderate Implementation	High Surveillance Establishment of NPSP	Medium	Supportive
Gates foundation	Moderate Implementation	High Social mobilization Vaccine procurement	Medium	Supportive
Ministry of Health and Family Welfare, Government of India	High vaccine procurement, funding and logistics arrangement of	High Driving the program, coordinating with state governments	High	Mixed (initially opposed, later supportive)

	campaign, mobilizing resources			
National Polio Surveillance Project	High Hiring and training of vaccinators and SMOs	High Surveillance of AFP	High	Supportive
India Expert Advisory Group	High Policy formulation Planning	High	High	Supportive
Political parties	Agenda setting Policy making Creating awareness	Medium	High	Mostly supportive
Celebrities	Marketing Creating awareness	Medium	Medium	Supportive
District Magistrate/ Zonal Head/ Block Development Officer	High Implementation driving program at district level Mobilizing all departments	High Executive head	Medium to high	Supportive
Local healthcare workers/ SMOs	High Micro planning , implementation of plans, communication with supervisors	High maintaining quality of vaccines, ensuring delivery without any gap	Low-medium	Supportive
Village Panchayat/ women's groups/social organizations	Implementation, Mobilizing communities	Medium explaining importance of vaccination to community, creating awareness for campaign	Low-medium	Supportive

Dr John Andraus (adviser to WHO)	Negotiated with opposing groups, Coalitions with political parties.	Advocated polio eradication on Epidemiological evidences	High	Supportive
Dr. Kaushik Banerjee (Director EPI)	Negotiated with opposing groups, Coalitions with political parties.	Advocated polio eradication on Epidemiological evidences	High	Supportive

Table 2: Chronology of events and number of cases reported in India.[3,6]

Year	Number of polio cases reported	Activities
1994	4791	PPI piloted
1995	3263	PPI launched nationwide NIDs
1997	2275	NPSP established
1999	2817	Type 2 poliovirus eradicated. House-to-house strategy begins. IEAG for polio constituted
2001	268	Establishment of SMNet Amitabh Bachchan becomes UNICEF Brand Ambassador for Polio
2002	1600	GoI took lead in polio financing
2003	225	The under-served methodology was presented
2004	134	Transit immunization strategy suggested
2005	66	More effective monovalent OPV was introduced Intensification of Social mobilization, with high involvement of religious leaders
2006	676	Newborns tracking involving enumeration, vaccination started Revisit strategy to cover missed households missed house
2007	874	Formation of Ulemas' Committee to improve support of Muslim community

2009	756	Introducing geographically confound and very focused 107 Block plan
2010	43	Bivalent bOPV including type 1 and 3 WPV serotypes simultaneously was introduced Notification of GoI FOR Considering a single polio case as public health emergency

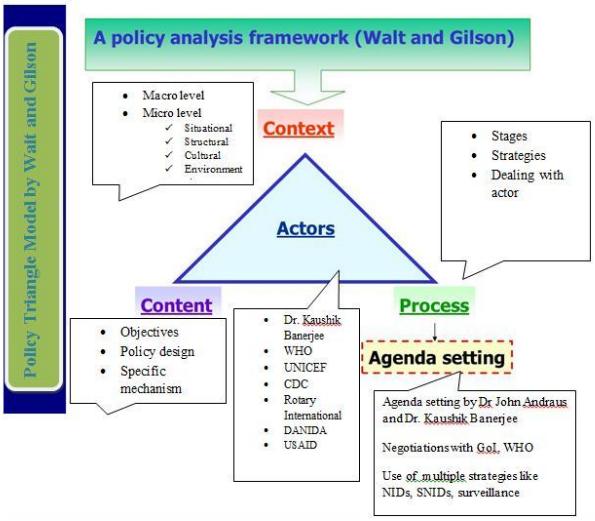

Figure 1: Policy Analysis Framework by Walt and Gilson.