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Multifaceted contributions: health workers and smallpox eradication in India

Contibuições multifacetadas: trabalhadores da saúde e a erradicação da varíola na Índia

Sanjoy Bhattacharya [1]

Abstract *Smallpox eradication in South Asia was a result of the efforts of many grades of health-workers. Working from within the confines of international organisations and government structures, the role of the field officials, who were of various nationalities and also drawn from the cities and rural enclaves of the countries in these regions, was crucial to the development and deployment of policies. However, the role of these personnel is often downplayed in official histories and academic histories, which highlight instead the roles played by a handful of senior officials within the World Health Organization and the federal governments in the sub-continent. This article attempts to provide a more rounded assessment of the complex situation in the field. In this regard, an effort is made to underline the great usefulness of the operational flexibility displayed by field officers, wherein lessons learnt in the field were made an integral part of deploying local campaigns; careful engagement with the communities being targeted, as well as the employment of short term workers from amongst them, was an important feature of this work.*

Key words *Smallpox eradication, World Health Organization, South East Asia Regional Office of the World Health Organization, Vaccination, Immunisation*

Resumo *A erradicação da varíola no Sul da Ásia resultou dos múltiplos esforços de trabalhadores da saúde de vários níveis. Trabalhando a partir do interior de organizações internacionais e estruturas governamentais, o papel dos funcionários de campo, originários de várias nacionalidades e também provenientes de cidades e enclaves rurais dos países dessas regiões, foi crucial para o desenvolvimento e a distribuição de planos de ação. Entretanto, o papel desses funcionários é geralmente minimizado em histórias oficiais e acadêmicas que ressaltam, ao invés, os papéis desempenhados por um reduzido número de funcionários seniores dentro da Organização Mundial da Saúde e dos governos federais do subcontinente. Este artigo busca oferecer uma avaliação mais integral da complexa situação da erradicação da varíola. Nesse sentido, faz-se um esforço para sublinhar a grande utilidade da flexibilidade operacional apresentada pelos funcionários de campo, na qual as lições aprendidas no trabalho de campo tornaram-se parte integrante da distribuição de campanhas locais. Uma importante característica foi o cuidadoso engajamento com as comunidades-alvo, bem como a contratação por curtos períodos de pessoal dessas mesmas comunidades.*

Palavras-chave *Erradicação da varíola, Organização Mundial de Saúde, Escritório Regional do Sudeste Asiático da Organização Mundial de Saúde, Vacinação, Imunização*

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Introduction

The global eradication of smallpox was certified by an independent committee of experts in December 1979 and the announcement was ratified by the World Health Organization [hereafter, WHO] in 1980. Widely hailed as one of the biggest medical triumphs of the 20th century, the campaign to eradicate smallpox worldwide is often described in simplistic terms in official published histories and in some academic work. The picture presented is of a unitary programme of action, where the many cogs in the wheel apparently worked in almost perfect harmony, causing orders from the top of an administrative pyramid to be unquestioningly implemented in localities across the globe. Viewed from this perspective, the beliefs and calculations of a few senior officials is supposed to have had informed the actions of a huge number of health workers of different educational backgrounds, nationalities, political affiliations and gender, over the course of more than a decade[1-3].

This article seeks to show that the organised drive to expunge smallpox was a much more complicated and disjointed entity. A composite of numerous multi-faceted country- and region-oriented public health programmes, the campaign combined the work of several non-government agencies with that of national, provincial and district administrations. This ensured the participation of a wide range of health workers, with distinctive educational and training backgrounds, with varying levels of loyalty to different government departments and political cultures, and, perhaps most significantly, with well-developed notions about the efficacy of specific medical traditions and practices. It is, therefore, unsurprising that a careful assessment of unpublished WHO papers reveals that collaborations between senior organization staff, in the WHO offices and field postings, involved a series of time-consuming negotiations with numerous grades of funding agencies, bureaucrats, politicians and, not least, health workers. This, in turn, resulted in complex administrative and financial arrangements that needed to be re-established at frequent intervals. At one level, this was a situation caused by the fact that inter- and intra-governmental discussions and the resulting aid packages, which were to prove decisive to the successful completion of smallpox eradication, were organised on varying bi-lateral and multi-lateral bases. It is worth remembering here that WHO officials were generally involved in multi-lateral negotiations, as initiators of negotiations, witnesses to the completion of signed agreements and, sometimes, apolitical distributors of resources in the shape of vaccine, vaccinating kits, money and personnel. At another level, the continual re-negotiation of working relations was a direct result of the highly complicated nature of the health workers' cadre. Whilst some elements of this work-force were supportive of the WHO's call for global smallpox eradication, others were either apathetic or openly hostile – skill and apathy were required to tackle such apathy and hostility, and this article will seek to demonstrate that success was not was not always easily or completely achieved.

Indeed, a detailed examination of these trends reveals that senior WHO officials and field representatives were often not in control of the unfolding of policy imperatives, as a variety of international, regional, national and local developments continually threatened to blow the most tightly planned plans off course. Projects often stuttered along uncharted paths, as their managers were constantly forced to adapt to unexpected problems. As a result, desired results were frequently achieved almost accidentally, surprising even the most optimistic and committed field personnel. An appreciation of all these complexities, which are repeatedly glossed over in available scholarly work on the topic, does not detract from the significance of the smallpox eradication. To the contrary, it highlights the enormity of the achievement, which many officials and politicians considered impossible during the 1960s and 1970s.

A short note on the administrative complexity of the WHO

The United Nations came into being soon after the end of the Second World War, and the World Health Organization was established as one of its major, specialised sections in 1948. The WHO headquarters were established in Geneva, Switzerland, and this body took on the role of trying to help in the development and co-ordination of public health and medical schemes across the globe. In its formative years, these activities were targeted particularly at regions that had been badly affected by the war and countries that had managed to break loose from the shackles of colonialism; the advertised goal was to carry out all this work on an apolitical basis[4].

The WHO has, from its inception, been a complex administrative structure. It consists of a Health Assembly, a Director General's office that

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is in regular touch with a relatively tightly knit advisory committee and, not least, a large secretariat. The Assembly was formed by representatives of all the member nations, who met at regular intervals in Geneva and involved themselves in proposing schemes and voting for their implementation. This body was given the power, through the WHO constitution, to ask the DG's office and his/her advisory committee to develop detailed plans for the implementation of policies and programmes; all completed plans were then presented to the assembly and then forwarded to the secretariat's bureaucracy for implementation. This, in turn, ensured the formulation of numerous plans within the WHO HQ and the various WHO regional offices, as workers associated with these bodies, with varying training, specialisation and institutional affiliation, frequently came up with varying ideas about how best to achieve different goals[5].

To add to the complexity of what was really the first stage of policy implementation, departments within the different WHO offices would also often set up – on a collaborative basis or otherwise – specialist research groups to provide blueprints for action. These suggestions, which were often published as so-called technical reports, did not automatically become ordained as WHO blanket policy; instead, organisational representatives in the field were often directed by WHO office managers to give greater attention to some proposals than others, as a variety of political and economic considerations had to be made part of the larger calculations of designing and implementing policy. A further layer of operational complexity was added by the experiences of field personnel, who had to work in a variety of regional, national and local contexts. Indeed, as these officials – of separate nationalities, races, gender and educational profile – adapted to a variety of political, economic, social and medical situations, they were forced to reinterpret centrally dictated policies in numerous ways. In doing this, it is striking that WHO field officials were continually forced, sometimes to their displeasure, to draw upon local sources of information and help. This assistance was generally sought from amongst local political structures and sections of the social groups at whom public health policies were being targeted; this local knowledge and the resultant activities were, of course, not always in concert, as varying interests competed for recognition and precedence, adding several layers of operational complexity to the unfolding of public health and medical campaigns[6].

It is worth noting here that all the WHO regional offices, their departments and the country representatives within them were important actors in the formulation and implementation of policy in the field, which has been ignored in most academic studies that tend generally to focus on either the voices of a handful of people based in Geneva or the Health Assembly's resolutions published by the WHO HQ after several rounds of careful editing. This also perhaps explains why the significant voices of national- and local-level health workers, usually employed by different WHO offices on short-term contracts of varying lengths, is almost entirely lost in historical writings dealing with different health campaigns. This is, needless to say, a serious lacuna, as the opinions and actions of such staff, who were usually in touch with local politicians and bureaucrats, acting as crucial go-betweens between them and a range international WHO workers on a day to day basis, are a crucial element of the history of the unfolding of projects sponsored, managed or encouraged by the WHO HQ and the regional offices. Getting access to these significant voices is difficult, requiring concerted work in a variety of archives as well as a willingness to chase down personal papers and talk to WHO workers of all grades (sometimes in languages other than English). However, such difficulties should not be used by historians as a justification for the preparation of blinkered studies that deny agency to all but a handful of senior WHO administrators.

The uneven progress of the Indian national smallpox eradication programme

Indian independence from British rule in 1947 brought forth countless hopes of widespread reform. The issue of the general improvement of health conditions occupied a central place in discussions within government and outside, not least as it was seen by many commentators to be a necessary basis of social and economic empowerment. Despite the existence of many views and prescriptions in this regard, India's first government, led by prime minister Jawaharlal Nehru, chose to back a blueprint of reform proposed by Sir Joseph Bhore. The so-called Bhore Report recommended a thorough re-organisation of health services aimed at a thorough unification of preventative and curative medicine, through the gradual development of a cadre of multi-purpose health workers[7].

Implementing Bhore's recommendations was

always going to be an uphill battle. Ordered by the colonial authorities during the Second World War, the report was released as British India was in the act of being dismantled with a degree of confusion, just prior to the territory being converted into the independent nations of India and Pakistan[8]. The post-colonial division of resources and territory, and the war over Kashmir that attended territorial disputes in this regard, ensured that scarce resources were denied to the expansion of general health services[6]. The strategy of the federal authorities in the face of such a resource crunch, which prevented the wholesale development of a new cadre of health workers, was an advocacy for the re-training of existing core staff, involved in all manner of public health and general medical campaigns in the different Indian states[9].

However, this order was easier to design on paper than actually implement in the field. Several factors impeded the suggested re-training and conversion of those involved in specialised jobs into multi-purpose health workers. General health policy, according to the new Indian constitution, was controlled by democratically elected state governments; Nehru and Amrit Kaur, India's first federal health minister, appear, in the first ten years after independence, to have largely respected this constitutional injunction (the federal health authority did, however, frequently apply its right to intervene across state territories during epidemic outbreaks of infectious disease). These administrative arrangements proved significant in a situation where the federal and state governments' visions of reform rarely coalesced in the face of continuing shortage of financial resources, as well as differing political, social and economic goals[6,9].

Marked regional variations in healthcare resulted over the decade after 1947, as state governments drew up their own budgets and means of allocating them. These, increasingly, became hostage to a variety of electoral considerations and, in numerous cases, bureaucratic quagmires that allowed for the official misuse of available funds. Needless to say, some states – and localities within them – were more affected by these structural problems than others, but the prevalence of these trends just increased the uneven nature of the access to health services across the country[9,10]. Further complications were created for health managers by the politicization of the cadres. This influenced work in myriad ways – even in states and localities where managers wanted to push through re-training regimes, unionisation of the groups of health workers slowed these efforts, changed plans beyond recognition or sometimes even blocked planned re-organisations. The negotiations between government agencies and the smallpox workers' unions were a representative example. As the federal authorities – and their supporters within state administrations – made increased efforts to broaden the responsibilities of smallpox vaccinators, their union representatives successfully placed stringent demands in relation to salary and pension rights before re-training schemes were attempted. However, increased wage bills caused budgetary shortfalls for almost every state, which, ironically, caused a scaling back of several programmes, including those intended to train smallpox vaccinators to carry out a range of other health-related work[11-14].

This was the background against which discussions about the possibility of eradication of smallpox were started between the Indian federal authorities and the WHO headquarters in Geneva[15]. From the very outset, there clear indications that these negotiations would not be carried out easily. Apart from disagreements about the design and implementation of policy between the WHO HQ and the WHO's South East Asia Regional Office [hereafter, WHO SEARO], it was clear that the Indian health ministry was far from united in its support for a programme that might potentially expunge variola from the country. To complicate matters, WHO HQ and WHO SEARO representatives in touch with officials in New Delhi realised that the federal ministry was unwilling – and in many instances, unable – to dictate the form day to day work was to take to different state authorities. Apart from being a result of the fragmentation of political and bureaucratic opinion at different elements of Indian administration, investigations revealed that serious difficulties were also being caused by the wide variation in education and training of workers who were going to make the scheme possible[15,16].

Indeed, it is in the context of this federal government assessment that the regional variations in the size, structure and quality of the state health services, which caused some Indian officials supportive of the development of a push to eradicate smallpox to highlight the dangers of developing a unified strategy for the entire country. Whilst their concerns appear to have been ignored for the most of the 1960s, the wisdom of their warnings became quickly obvious as the so-called 'pilot projects' hit the buffers almost in every state. Assessments of field experience showed that vaccination targets were missed, budgets were over-

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shot and the return of smallpox in epidemic form was not halted. Most importantly, reports revealed that federally dictated policies, at this time only partially based on recommendations received from the WHO HQ, were being reinterpreted in myriad ways by health workers posted in the field, in response to a plethora of technical, political, social and economic conditions. Notably, assessments of the situation noted that local public health and medical workers would frequently refuse to give the goal of mass smallpox vaccination the importance desired by some people in New Delhi; thus, many continued to concentrate on their day to day responsibilities, after setting their own priorities in relation to the allocation of resources and time[6,17].

The continuation of these trends brought forth significant reforms in 1967, both within the WHO offices and Indian government. The WHO HQ on its part acknowledged the need to invest greater financial resources in the Indian smallpox eradication programme, as interest within the country's federal government was beginning to flag. The promise of the infusion of money, stocks of vaccine and personnel ensured continued Indian participation and even sparked a re-shuffle of personnel in New Delhi – the Director General of Health Services was replaced by a person who, at least in the view of WHO officials, was likely to be more co-operative. Yet, these changes did not bring an immediate improvement in vaccinal coverage and results. To the contrary, it created more concerns, as reports prepared by foreign officials, who were given Indian government clearance to tour the country and inspect programme being run in various states, highlighted the many problems afflicting the campaign[18].

By 1970, it was also clear that local health workers, of different specialisations, attachments and ranks, were by no means united in wanting to support the drive to eliminate variola. If anything, touring international and Indian epidemiologists and vaccinators encountered hostility from local health officials, who resented the increased supervision of their activities. This affected work negatively in several ways. Many local health workers would frequently refuse to adopt new working methods in relation to searching, reporting and isolating smallpox cases, as well as new vaccinating methods. This was highlighted in the continued use of mass vaccination techniques in several localities, whenever pressure was imposed on their public health officials to assist the national smallpox eradication programme. Such a situation was, needless to say, in stark contrast to the strategy of search and containment strategy widely prescribed from within the WHO offices in Geneva and New Delhi, which hoped to encourage contact tracing and selective vaccinations within a set of prescribed distances. It is important in this regard to recognise operational disunities amongst staff deployed by the WHO in the field, in a scenario continued to believe in the usefulness of mass vaccination and disagreements persisted about the required geographical scope of the immunisation of populations surrounding cases of smallpox. These trends engendered wide variations in beliefs and actions amongst health workers across the multitude of localities that formed the Republic of India; whilst some displayed varying levels of willingness to assist the eradication campaign, others displayed outright hostility by tapping into political and social discontentment about aspects of the programme[19].

All these trends had a deep-seated impact on WHO-funded activities in the country in the 1970s. The unevenness of assistance provided by Indian health workers posted in the localities encouraged the smallpox eradication team based within WHO SEARO to work with their allies in Indian government to develop a quasi-independent workforce that would carry out inspections and any required vaccination within problems spots in different states. Based on an amalgam of international workers, Indian officials seconded from federal, state and district governments, medical students from across the country and, not least, people drawn from sub-divisional towns and villages where work was to be carried out, this team started working largely independently of public health and medical personnel employed by the state. State support was lobbied – and sometimes demanded through the Indian prime minister's office – when a crisis was identified, and forcible immunisation was considered to be a possibility during detailed searches of urban and rural hamlets in a region. The use of force in the South Asian smallpox eradication campaigns has been treated brilliantly by Paul Greenough; he does, however, downplay the level of national participation in these campaigns and the role of WHO officials in mobilising such support[20,21].

The work of this new multi-national and multi-talented workforce, which was developed as tough and unexpected lessons were learnt in the field, was crucial to making Indian smallpox free; in fact, the knowledge provided by members of local communities was integral to this

success, as it allowed touring teams to be flexible in meaningful ways. Several commentators have underlined the great significance of the operational flexibility displayed by teams of international and Indian workers in the field; of greater import, perhaps, was the collection and collation of local information, provided by committed allies drawn from areas where intensive search, containment and immunisation programmes were carried out[22-23].

WHO agencies and smallpox eradication: Some generalisations

The relatively small number of WHO officials who started discussing the prospects for the global eradication of smallpox in the early 1960s very much hoped that it would be a top down campaign, wherein the WHO HQ in Geneva – and, particularly, some departments within it – would be able to set a general campaign agenda. Recommendations were, for instance, volunteered in relation to how immunisation might be carried out, what sort of vaccines to use and how to assess the achievement of eradication. However, their experience quickly revealed the pitfalls of believing that they could automatically assume such intellectual and technical leadership. Representatives within the WHO regional offices raised numerous queries about proposals sent in from Geneva, and highlighted their own firmly held belief that all central directives would require tailoring to fit local conditions. These features of 'locality' were presented as being both challenging and inconstant, which, in turn, it was argued, meant that programme implementation would require frequent re-jigging, as political arrangements with different national governments were set up, reconfigured or abandoned.

Significantly, as we have seen earlier, there were disagreements, too, at other administrative levels about how a global campaign to eradicate variola might be organised and run. Plans that were presented as a good idea by one group of WHO workers at one regional office were almost routinely challenged both within their organisation and outside. Criticism from within other regional offices was often quite strident, as officials based therein made it a point to underline the need to develop locally specific plans. And as the scope of what was defined as constituting the 'locality' expanded from government structures located within specific national capitals to the political and social constituencies of the districts, sub-divisions and villages within whose administrative confines immunisation policies were actually going to unfold, the disagreements within the complexity of WHO structures became even more marked.

The South Asian subcontinent, which was the focus of the global eradication programme in the late 1960s and the 1970s due to the high incidence of variola in the region, was a good case in point. WHO officials in touch with representatives of the Indian, Pakistani, Nepali, Sri Lankan, Bhutanese, Burmese and, later, Bangladeshi national governments – and, therefore, keenly aware of the many expectations and tensions within those multi-faceted formations – refused to blindly accept orders relating to the blanket implementation of specific immunisation strategies and vaccine usage patterns coming in from Geneva. Strikingly, suggestions from the HQ were frequently queried and discussions were held within the regional offices about how the dictates from Geneva might be restructured to best meet a host of local needs; these trends were very noticeable within the Eastern Mediterranean Regional Office (EMRO) that dealt with Pakistan and the South East Asian Regional Office (SEARO), which was charged with the task of working with the other sub-continental governments (including Bangladesh after 1971). An assessment of all such discussions, which is best done through a study of unpublished telegrams, letters and reports available in the various WHO archives, reveals that officials located within different levels and departments of the regional offices continued to hold disparate views right till global smallpox eradication was formally certified.

As is to be expected, the prevalence of numerous ideas about how work ought to be carried out within SEARO and EMRO influenced the many ways in which eradication policies were implemented. Like the WHO HQ in Geneva, the regional offices were not monolithic bodies. Some officials were more enthusiastic than others about the goal of variola eradication, and divergences in policy implementation were further encouraged by the fact that Regional Directors remained keen to advertise their autonomy by seeking to reconfigure guidelines received from the HQ, usually on the basis of their own understanding of local requirements. Such variation in bureaucratic support within the WHO was frequently identified in internal, unpublished documents as a significant impediment to the smooth running of the overall programme. This helps explain why SEARO structures were reorganised in the 1970s,

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clearly in an effort to ensure smoother and direct interactions between the Smallpox Eradication Unit headed by Donald Henderson in Geneva and the field officers in the region. Notably, this took the form of the setting up a unit in New Delhi, within the SEARO establishment, which was put in Nicole Grasset's charge; this body was made directly answerable to Henderson and his team and also given access to special funds donated by a variety of funding agencies (the Swedish International Development Agency was a major contributor towards the costs of the so-called intensified phase of activity in India and Bangladesh from 1973 onwards). The aim, it appears, was to counteract the then SEARO Regional Director's opposition to the way the smallpox programme was being run in South Asia, and develop a relatively independent taskforce drawn from a variety of WHO-affiliated workers, both international and South Asian.

This reorganisation of personnel helped in other ways as well. For example, as noted in the previous section, it allowed for the inflow of a miscellany of ideas from the field about how to adapt work effectively to a variety of local conditions. Placed in the hands of Geneva- and New Delhi-based managers who were willing to avoid the strict top-down imposition of centrally dictated policies, to negotiate with the target population, and, not least, to adapt work to assuage local concerns and innovate in relation to the running of the so-called search and containment strategies that were central to the campaigns of the 1970s, such input was invaluable. Indeed, it allowed teams of international and local workers, who were generally mobilised in groups containing personnel of various nationalities (the Indian government insisted on such an arrangement before allowing foreign epidemiologists to work in the country), to respond quickly to a diversity of local crises and social, political and economic needs. That the personnel were spared the need to get endless bureaucratic clearances for finances controlled by the Regional Director and national governments helped enormously, as it saved valuable time and allowed for greater flexibility.

This is not to say that opposition, from within WHO agencies and complex national political frameworks, disappeared completely over time. Indeed, pockets of often intense hostility remained in a situation where the Regional Directors retained powerful political alliances within and across national borders; this was compounded by the significant power held by critics within South Asian national, provincial and district governments and their various departments, as well as the doubts about the efficacy of vaccination harboured by some sections of society. Strikingly, not all public health and medical officials were supportive of smallpox eradication, as many considered the goal an impossible one and, therefore, a misguided waste of scarce resources. Administrative bottlenecks frequently resulted, as plans suggested by the WHO's smallpox eradication units in Geneva and New Delhi were questioned and, sometimes, blocked within different levels of South Asian administration. These trends threw up vital challenges in a situation where WHO officials had varying levels of access to different national territories; problems that, it has to be noted, could only be overcome through sustained negotiations with politicians and bureaucrats of all ranks (including members of the political opposition), as well as members of target population. As mentioned earlier, international workers could not just fly into the national capitals and then disperse as they wished. In all cases, they required clearance from a country's federal authority for entry and work, with special paperwork being additionally required for visits to politically sensitive enclaves (India's North Eastern Frontier Area, as this region near Chinese borders was then designated, was a case in point, as was the highly disturbed Indo-Bangladeshi border in the 1970s).

The result, therefore, was a complex patchwork of distinct plans and patterns of work, in a multiplicity of urban and rural areas. These coexisted uneasily and sometimes openly came into conflict, due to the influence of a variety of administrative, economic and social factors; situations that required careful resolution through sensitive diplomatic negotiations carried out by WHO workers in association with their allies in national and local government. Force was sometimes used to counter opposition to vaccinations associated to search and containment regimes, but these were exceptions rather than the norm. Once again, these initiatives could not be carried out by WHO personnel in isolation, as the danger of a violent social and political backlash were acute – unpublished WHO and government correspondence regarding campaigns of forcible immunisation suggests careful planning and synchronisation of efforts between organisational employees, South Asian politicians of all ranks and hues, and, not least, national and local military, paramilitary and police forces (links that were almost university downplayed, by all in-

volved, once smallpox eradication had been achieved). It was a combination of all these initiatives that allowed for the eradication of smallpox in South Asia, which was ultimately crucial to the ultimate removal of the disease globally.

Concluding comments

The global eradication of smallpox is, by any measure, an enormous achievement. To recognise that this goal was reached in the face of tremendous difficulties, often emanating from within the confines of all the organisations involved in the programme, does not detract from that accomplishment. However, it does serve as a reminder that scholars should avoid being swept away by the heroic narratives that tend to predominate in official histories prepared after the certification of eradication[24-26].Historians need to be equally careful about being over-reliant on reports published during the programme's earlier stages, as these tend only to offer the views of a few people, who hoped, usually in vain, that their recommendations would implemented as policy in the field. Ground realities, as this article attempts to show, were always significantly more intricate. And this complexity can only really be revealed by a careful analysis of unpublished papers dealing with the day to day discussions about policy, which are useful precisely because they reveal the views and actions of the thousands of field managers and health workers who contributed to smallpox eradication; their ability to study and adapt to a plethora of local conditions was crucial to the ultimate result and, therefore, merits recognition.

Assessing the intellectual, political and social agendas of a handful of senior WHO officials is fine as long as we do not end up assuming that everyone else associated to it was devoid of intellect, and the ability to make a difference in the design and implementation of policy. The views of WHO Directors General, their advisors and overall heads of disease control programmes are undoubtedly important. Yet, it is important to remember that their views were neither static nor able to dictate the day to day running of a highly complex organisation; at the same time, it would be foolhardy for the historian seeking to study the complex interplay between global, regional, national and local forces to ignore the complicated political networks that different constituents of the WHO had to contend with on a daily basis, often through the offices of staff employed locally on a variety of short-term contracts.

The attempt here is to emphasise the difference between theory and practice; the need to distinguish between the official rhetoric from the WHO HQ and regional offices, and the nature of work actually carried out in a variety of field situations, with the active assistance of a wide range of health workers, is of paramount importance. This would allow the preparation of more rounded histories of health campaigns run of a global scale, which were – and continue to be – reliant on the assistance provided by numerous local political and social actors. And unlike the thinly researched and jargon filled analyses of the thoughts and actions of a few senior organisational personnel, a thorough assessment of the intricacies of global health organisations and their links to national and local governments can actually provide useful insights into the management of current health programmes. Apart from anything else, the careful examination of policy implementation would suggest that the acute differences between vertical and horizontal health programmes, which analysts dependent on published policy assertions regularly allude to, are far less marked than assumed. Indeed, local infrastructural exigencies and field experiences often forced developments that blurred the lines between preventive and curative medicine; an important point to remember when the WHO HQ's renewed emphasis on the worldwide regeneration of the structures of primary healthcare is stoking interesting discussions, both within and outside the organisation, about their ability to bring about meaningful changes in developing, less developed and developed countries.

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