Between "Local Knowledge" and "Global Reach": Diarrhoeal Diseases Control and the International Health Agenda[1]

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RESÜMEE

Der Aufsatz geht der Produktion medizinischen Wissens im Kontext globaler Programme zur Krankheitsbekämpfung zwischen den 1960er und 1990er Jahren nach. Am Beispiel der Eindämmung von Durchfallerkrankungen, eine der Hauptursachen für Kindersterblichkeit in ärmeren Ländern, wird der enge Zusammenhang von institutionellen, ideologischen und technologischen Faktoren behandelt. Die detaillierte Rekonstruktion der Schaffung von Wissen und politischen Direktiven im Umfeld der zentralen Initiativen der weltweiten *Diarrhoeal Diseases Control*-Programme hilft die divergierenden Positionen zu Gesundheit, wissenschaftlichen Agenden und Politik in der Weltgesundheitsorganisation, aber auch von Forschungsinstituten in Südasien sowie US-amerikanischen Entwicklungsagenturen zu erkennen. Das zentrale Argument des Nahblicks auf diese Konstellation lautet, dass biomedizinischer ‚Fortschritt' zwar von entscheidender Bedeutung für den Beginn weltweiter Gesundheitsprogramme war, jedoch eine äußerst geringe Rolle in der konkreten Zielsetzung und Entfaltung spielte. Verfolgt man gleichermaßen die Forschungspraxis wie die ideologische Rahmung der Gesundheitspolitik, entsteht ein komplexes Bild des Agenda-Setting und der Ergebnisse von Weltgesundheitsprogrammen.

The control of diarrhoeal diseases as a topic of international health policy is both old and new. On the one hand, the danger of cholera, an epidemic disease that has circled the globe in so far seven pandemics from the early 19th century on, had spurred the

1 I would like to cordially thank Katja Naumann and Klaas Dykmann for their generous and meticulous editing, which has helped to improve this article considerably..

beginnings of modern international health regulations in the mid-19th century.[2] Vibrio cholerae is, however, only one of many causal agents in the broader group of diarrhoeal diseases, and when it comes to mortality statistics it plays a minor role, which stands in marked contrast to its importance in international health as well as popular imagination. Infant and child mortality due to other diarrhoeas with various etiologies were high all over the world in the 19th century, and after sanitary and nutritional changes in industrialized countries remained by the mid-20th century in "developing"[3] countries. On a global scale and as far as statistics tell us, diarrhoeal diseases became the primary cause of death of infants and children under five in the 20th century. Today, the World Health Organization (WHO) ranks them second in causes of child mortality. On the other hand, on the international health agenda diarrhoeal diseases were addressed implicitly through sanitation programmes until the late 1970s, when a number of international organizations, bilateral development aid donors, and numerous national governments initiated a global diarrhoeal diseases control programme. In the 1980s, diarrhoeal diseases control was one of the top priorities in international health and health-oriented development aid, but today is treated as a minor issue when compared with other infectious diseases.[4]

It is, apparently, not the evidence of a health problem as such that sufficiently explains the changes in the international health agenda in regard to this important group of diseases, but rather specific sets of ideas and institutional settings that have resulted in greater concern. In this sense, the purpose of this paper is not an epidemiology or "disease biography" of diarrhoeal diseases, but an investigation of the relations between different institutional actors; issues of local and global knowledge production, power, and the politics of health; as well as the medical, political, and social factors influencing the formulation of the international health agenda.

Change in the history of medicine is often attributed to variations in epidemiologies and disease patterns, to general changes in living conditions in a society, or to a change – "progress" – in health interventions such as treatment options and medical technology. Arguably, all of these factors were crucial for the history of diarrhoeal diseases prevalence, spread, and control in the second half of the 20th century: A new cholera pandemic from 1961 on captured the attention of the public, the medical profession, and health policy makers alike. Furthermore, the ensuing intensified biomedical research helped produce an effective as well as cheap treatment that could be used for all diarrhoeas, while international connections as well as a mutation of the cholera pathogen brought the pandemic

2 N. Howard-Jones, The Scientific Background of the International Sanitary Conferences 1851–1938, Geneva 1975; V. Huber, The Unification of the Globe by Disease? The International Sanitary Conferences on Cholera, 1851–1894, in: Historical Journal, 49 (2006) 2, pp. 453-476; C. Hamlin, Cholera: The Biography, Oxford 2009; M. Echenberg, Africa in the Time of Cholera. A History of Pandemics from 1817 to the Present, Cambridge 2011

3 Obviously, the terms "developing" and "developed" countries are native categories taken from the sources, describing complex social constructs that imply a style of thought, political imperatives, and overall ideas in social sciences. They are therefore not used as analytical concepts or categories, but as constructs to be historicized.

4 PATH. A Catalyst for Global Health (ed.), Diarrheal Disease Control and the Global Health Agenda, January 2011.

from its endemic areas in South and Southeast Asia to postcolonial African states on a massive scale, which resulted in ambitious international relief efforts.
An adequate explanation of the initiation, size, scope, and focus of the global diarrhoeal diseases control efforts from the late 1970s on, however, has to take into account the institutional and intellectual framework of international health at the time. In this article, the institutional framework within the United Nations (UN) setting, the influence of individual nation-states such as the United States or Bangladesh, and the role of specific research institutions for the formulation of diarrhoea research and health policy will be discussed. Looking at international diarrhoeal diseases control can serve as a prism from which the framework of ideas and institutions that have shaped the international health agenda can be understood.

International Health After World War II

From its inception international health policy was "politicized", as expressed in different traditions of medical reasoning. Social medicine, with an emphasis on the broad and social conditions underlying disease and health, had played an important role in interwar health policy. After World War II, when within the United Nations framework the WHO, as a specialized agency, held the health mandate, social medicine lost influence to biomedical approaches focusing on individual factors in disease. The 1970s were a decade of reformulating the basic assumptions of health and general "development" after the apex of modernization theory, a framework for development theories that was increasingly questioned in the 1970s. Internally, criticism was directed toward large "single-issue" campaigns that focused exclusively on eradicating individual diseases, such as the Global Malaria Eradication Programme, which had spectacularly missed its ambitious target.[5] Newly independent postcolonial states voiced concern over the exclusive focus on allopathic Western medical thought and advocated alternative medical traditions. Representatives of the Group of 77 set out to influence the WHO's agenda.[6] And just as investments in large infrastructure development were challenged in other agencies, it was argued that the emphasis on curative care rather than on prevention, the narrow focus on urban hospital-based treatment by professionals, and the expensive investments in high technology in health were not meeting the needs of rural – as well as urban poor – populations in the world's developing countries.[7]

5 A. Mills, Mass Campaigns versus General Health Services: What have we learnt in 40 Years about Vertical versus Horizontal Approaches?, in: Bulletin of the World Health Organization 883 (2005) 4, URL: www.who.int/bulletin/volumes/83/4/315.pdf, access on 16.09.2013; K. Lee, The World Health Organization (WHO), New York 2008, pp. 47-54; S. Litsios, The Third Ten Years of the World Health Organization, 1968-1977, Geneva 2008; R. Packard, Visions of Postwar Health and Development and their Impact on Public Health Interventions in the Developing World, in: F. Cooper / R. Packard (eds.), International Development and the Social Sciences, Berkeley 1997, pp. 93-118.

6 S. Litsios, The Third Ten Years, pp. 19-20 (5).

7 K. Lee, The World Health Organization, pp. 72-86 (5)

Along with the "basic needs approach" formulated in other development agencies, a paradigm shift occurred in the WHO around the mid-1970s. The new concept of Primary Health Care (PHC) drew from a variety of sources – echoing the social medicine of the interwar years, the 1960s "basic needs" advocates, as well as India's Community Health Workers, China's so-called "barefoot doctor" approach, and Latin American child health accomplishments, publicized widely by influential figures in international health.[8] The WHO's Director General Halfdan Mahler embraced these approaches, and in 1976, the annual World Health Assembly – the WHO's executive forum – endorsed the goal of "health for all by the year 2000". This vision was reiterated at the famous conference of Alma-Ata in 1978, co-sponsored by the WHO and the United Nations Children's Fund (UNICEF). Considered to be a (yet another) revolution in health thinking, the focus was shifted from top-down high-tech policies to grassroot action. PHC was proclaimed to be a more equitable, democratic, and participatory health system, demanded new priorities addressing the "basic needs" of rural populations; and emphasised simplified "appropriate" technology, the expansion of local health auxiliaries, and the fight against diseases of poverty. Instead of "vertical" health campaigns focusing on one specific disease (such as the malaria or smallpox programmes), "horizontal" strategies of strengthening health services in general were advocated. This included an emphasis on local government, citizens' participation, and civil society (i.e., nongovernmental) organizations. PHC's normative basis lay in the strong belief that the socioeconomic causes of poor health needed to be addressed, that a more equitable health system ensuring access for all was necessary, and that health as a human right – established in the WHO Constitution – had to be recognised. It was argued that the fundamental importance of health for the entire social development process had to be reassessed. Of the WHO's 158 member states, 134 attended the conference, which unanimously endorsed the Declaration of Alma-Ata.[9]
However, soon conflicts arose, both over the general vision and its implementation. While the idea was alleged of being anti-scientific or naïve by its critics, much debate focused on the feasibility of Primary Health Care. The goal was challenged as being too

8 A. E. Birn, The Stages of International (Global) Health: Histories of Success or Successes of History?, in: Global Public Health, 4 (2009) 1, pp. 50-68; N. S. Deodhar, Primary Health Care in India, in: Journal of Public Health Policy, 3 (1982) 1, pp. 76-99; J. Bryant, Health and the Developing World, Ithaca 1969; K. Newell, Health by the People, Geneva 1975; C. Taylor, Doctors for the Villages: Study of Rural Internships in Seven Indian Medical Colleges, Delhi 1976.

9 M. Cueto, The Origins of Primary Health Care and Selective Primary Health Care, in: American Journal of Public Health, 94 (2004) 11; S. Litsios, The Long and Difficult Road to Alma-Ata: A Personal Reflection, in: International Journal of Health Services, 32 (2002), pp. 709-732; J. A. Walsh / K. S. Warren, Selective Primary Health Care: An Interim Strategy for Disease Control in Developing Countries, in: New England Journal of Medicine, 301 (1979), pp. 967-974; the Alma-Ata Declaration; the WHO and UNICEF Report „Alternative Approaches to Meeting Basic Health Needs in Developing Countries", Geneva et al. 1975; B. Wisner, GOBI versus PHC? Some Dangers of Selective Primary Health Care, in: Social Science and Medicine, 26 (1988) 9, pp. 963-969; as well as the materials on several Bellagio Conferences between 1978 and 1985 in the Rockefeller Archive Center: Protecting the World's Children Conference, RF A86 series 120 Box R2308; Selective Primary Health Care Conference, RF A85 series 120 Box R2247; Diarrhoeal Diseases and Malnutrition Conference, RF A83 series 120 Box R1990; Health and Population in Developing Countries Conference, RF A82 series 120 Box R1776; Child Survival Conference, RF81 series 120 Box R2364.

ambitious and costly, at a time of severe restrictions on public health. And how were policy strategies or priorities for action to be formulated, being based on nothing but a general health-systems strengthening approach?

In 1979, a mere year after Alma-Ata, a coalition of experts from UNICEF, the Rockefeller Foundation, the World Bank, and the United States Agency for International Development (USAID) proposed the alternative concept of *selective* Primary Health Care (SPHC). They argued that an "interim strategy" was needed in order to formulate health priorities. Based on the criteria of prevalence, mortality, morbidity, feasibility, and cost-effectiveness, SPHC was defined as a core set of limited, simple, and cost-effective health interventions targeting the prime health problems of poor populations. While the controversy over this approach continues today, UNICEF soon after the proposition adopted the SPHC approach and modified it into what its charismatic Executive Director James P. Grant coined the "Child Survival Revolution". Since the early 1980s, UNICEF backed four programmes addressing pressing problems of child health – the two most important ones being immunization campaigns and the control of childhood diarrhoeas through oral rehydration. Both in UNICEF's "Child Survival Revolution" and in the prestigious accompanying "Task Force for Child Survival" founded in 1984, immunization as a simple and effective technology to reduce child mortality took centre stage, with diarrhoeal diseases control at its side.

The expert controversy over Primary Health Care was fought with havoc and in principle, and for an analysis of international health policy the debate is meaningful. It may however, be more interesting to address it at the level of programme planning and execution. While the rivalries between the WHO and UNICEF in immunization campaigns have been studied,[10] diarrhoeal diseases control has so far received little attention. It is an interesting topic for a number of reasons: it can serve to investigate the importance of research and knowledge production for international health policy; the formulation of a "global" development programme between universalizing claims and the reassertion of local diversity, such as socioeconomic factors and "culture"; the importance of institutions and bureaucratic culture; agency and adaptation within international organizations; and changes in the international health agenda from the 1970s to the 1990s.

The Development of Oral Rehydration Therapy

The origins of diarrhoeal diseases control clearly lay in cholera control. In 1961, in Indonesia, the onset of the 7th cholera pandemic led to a renewed interest in cholera research both in the endemic area in South and Southeast Asia, and in other parts of the world.[11] As the pandemic rapidly spread westward, affecting new territories and from 1970 on-

10 W. Muraskin, The Politics of International Health: The Children's Vaccine Initiative and the Struggle to Develop Vaccines for the Third World, New York 1998.

11 C. Hamlin, Cholera (2).

wards a large number of insufficiently prepared African countries, the search for remedies became more pressing. When the pandemic began, preventive and curative options were limited and case fatality rates high.[12] Quarantine proved ineffective to halt the spread in this era of international travel and trade; sanitary improvements were known to be helpful in the long run, but were useless in acute epidemic situations; a cholera vaccine was widely distributed and required in many states' travel regulations, only to prove ineffective during the 1960s; antibiotics were a fairly valuable, though expensive option, thus leaving intravenous rehydration as the best available intervention. Intravenous rehydration did neither prevent nor cure the disease, but dealt with the most dangerous symptom of most acute diarrhoeas, the body's dehydration. The rapid loss of fluids and electrolytes from the body can result in fatal organ failure. Restoring the fluid and electrolyte loss through water-electrolyte-infusions can prevent deadly dehydration until the disease episode is overcome, thus reducing mortality considerably, a method that was perfected in the early 1960s. But it was an expensive intervention and could only be administered by trained health personnel, and therefore was no viable mass-scale option for poor countries with, at best, a rudimentary health system. These conditions made the cholera pandemic a significant challenge for international health experts.[13]

This brief assessment helps understand the importance of the development of a new treatment option in the 1960s. Conventional wisdom in allopathic medical thought claimed that in cases of diarrhoea, patients should "rest the gut" since it was assumed that ingesting food or drink would aggravate the condition. This faulty assumption partly rested on the correct observation that most diarrhoeal agents inhibit the absorption of water and salt in the intestinal tract. In the 1940s and 1950s, biomedical research revealed that this was in most cases not due to a destruction of the lining cells, and from this vantage point it became possible to investigate the option of oral rehydration during diarrhoeal illnesses.[14] Biomedical research in South Asia was crucial for several breakthroughs leading to oral rehydration therapy. The first and most important step was the discovery that the addition of glucose as a transport medium to water-salt solutions, in the right proportions, enabled the absorption of fluid and electrolytes during episodes of acute diarrhoea. The rapid succession of important discoveries eventually leading to a viable oral rehydration therapy has been described as a fascinating story of intense institutional competition as well as exceptional collaboration between several research teams.[15]

12 The case fatality rate for Asia in 1961, as reported to the WHO, was 49.3%. Within the next ten years, it declined to less than 15%. M. Echenberg, Africa, p. 123 (2).

13 R.Pollitzer, Cholera, Geneva 1959; N. Howard-Jones, Cholera Therapy in the Nineteenth Century, in: Journal of the History of Medicine and Allied Sciences 27 (1972), pp. 373-395; D. Barua, The Global Epidemiology of Cholera in Recent Years, in: Proceedings of the Royal Society of Medicine 65 (1972), pp. 423-428; D. Barua / W. Burrows (eds.), Cholera, Philadelphia 1974; see the newer version of this standard reference publication for the developments in cholera research: D. Barua / W. B. Greenough III (eds.), Cholera, New York 1992.

14 S. N. De's seminal contribution is described in: R. H. Hall, A De in the Life of Cholera, in: Indian Journal of Medical Research 133 (2011), pp. 146-152.

15 J. Ruxin, Magic Bullet. The History of Oral Rehydration Therapy, in: Medical History 38 (1991), pp. 363-397, gives a quite comprehensive account, but unfortunately relies heavily on a few interviews; W. E. Van Heyningen / J.

South Asia at the time was a world region that served as the "laboratory" for biomedical research in several fields and as the testing ground for a whole range of health policy programmes.[16] For cholera research, this endemic area with high prevalence of the disease was obviously an interesting environment, and during the 1960s numerous institutions engaged in research on this disease, with partial sponsorship from national governments, from the WHO, and from foreign institutions.[17] Among the institutions discovering and advancing oral rehydration therapy, three research groups stand out, all of them dominated by the US. The United States Navy Medical Research Unit (NAMRU) led by Captain Robert Allan Phillips performed both laboratory and clinical research in cholera, first in Egypt and then in Southeast Asia, with the aim of helping protect US soldiers abroad. The Johns Hopkins University International Center for Medical Research and Training (JHU-ICMR) was created in Kolkata in 1960, funded by the US Department of Health, Education and Welfare (DHEW) and administered by the National Institutes of Health (NIH), as part of a state-sponsored effort to maintain a modest level of interest and competence in tropical medicine among American biomedical scientists. The ICMR agenda was restricted to activities "advancing the status of the health sciences in the United States and thereby the health of the American people."[18] In collaboration with several Indian research institutions, the ICMR performed biomedical and ecological research in diverse areas throughout the 1960s; cholera and more general diarrhoeal diseases developed into one of its core research fields over the years.[19]

In the early 1970s, then, tensions between American administrations and the central government of India grew and the ICMR relocated to Dhaka,[20] joining yet another influential research institute there. The Pakistan-Southeast Asian Treaty Organization

R. Seal, Cholera: The American Scientific Experience, Boulder 1983, is mostly a memory of two participants and, while very valuable, therefore should not be read as academic literature; S. J. Savarino, A Legacy in 20th-Century Medicine: Robert Allan Phillips and the Taming of Cholera, in: Clinical Infectious Diseases 35 (2002), pp. 713-720, contains interesting information, but is mostly devoted to the memory of one (important) researcher. Personal accounts that partially cover the history include: O. Fontaine / C. Newton, A Revolution in the Management of Diarrhoea, in: Bulletin of the World Health Organization 79 (2001) 5; W. B. Greenough III, Oral Rehydration Therapy: An epithelial transport success story, in: Archives of Disease in Childhood 64 (1989), pp. 419-422; S. McGrane, A Simple Solution, in: http://www.jhsph.edu/publichealthnews/magazine/archive/Mag_Spring03/prologue/index.html, access: 2013-09-16, is a journalistic approach and inaccurate in several points.

16 S. Amrith has shown this for tuberculosis research, eg., In Search of a "Magic Bullet" for Tuberculosis: South India and Beyond, 1955–1965, in: Social History of Medicine 17 (2004) 1, pp. 113-130; H. Power for malaria research, Drug-resistant Malaria: A Global Problem and the Thai Response, in: A. Cunningham / B. Andrews (eds.), Western Medicine as Contested Knowledge, Manchester 1997, pp. 262-286.

17 For a large WHO research programme in cholera, see the cholera carrier studies and other investigations of the Cholera Research Laboratory in Kolkata, cosponsored by the Indian Council for Medical Research and the WHO.

18 This is specified in Public Law 86-610, International Health Research Act of 1960. H. A. Minners, Evaluating the International Centers for Medical Research (ICMR) Program, in: The American Journal of Tropical Medicine and Hygiene 23 (1974) 4, pp. 828-831.

19 See the ICMR's Annual Reports for detailed discussions of the individual research projects. They can be accessed at The Johns Hopkins Medical Archives in Baltimore.

20 The spelling of several names of cities in South Asia has been changed in the last decades. In order to simplify things, I have opted for a coherent writing in today's style, even though the names in primary sources were written differently (e.g., "Dacca" vs. "Dhaka").

(SEATO) Cholera Research Laboratory (CRL) was founded in 1960 in Dhaka, then East Pakistan, as a part of the SEATO Cholera Research Program. Most funding came from the United States International Cooperation Administration/United States Agency for International Development.[21] The NIH administered the laboratory. Whereas the Johns Hopkins Center had a direct and exclusive research purpose, the CRL's agenda was mixed. While it was hoped that it would advance the knowledge about cholera in its endemic area, the CRL predominantly served Cold War geopolitical considerations, satisfying a number of American allies in South and Southeast Asia that were affected by the pandemic.[22] The CRL usually hosted a small number of American researchers (mostly, though not exclusively, epidemiologists), a larger number of Bengali researchers, and supporting field personnel. It was comprised of a research hospital in Dhaka, a large-scale field research station in the rural area of Matlab, several smaller field research stations in other parts of East Pakistan, and the main laboratory facilities in Dhaka. The research that was undertaken here in the 1960s and early 1970s included clinical and laboratory investigations in the principles and mechanisms of cholera as well as the development of therapies, thus integrating basic and applied research. But the CRL also employed a small number of anthropologists and sociologists to study the social conditions of diseases as well as social factors in disease control efforts. The three research units thus varied in their agendas and structure. They shared the experience of field research in an area where diarrhoeal diseases of all (known and mostly unknown) aetiologies were prevalent throughout the year, often symptomatically indistinguishable. The endemic and epidemic situations called for a therapy that was feasible for use on a mass scale, and every day illustrated the magnitude of the public health problem of diarrhoeal diseases.
It was not exclusively but predominantly these institutions that, in a rather close-knit communication network, developed oral rehydration therapy, building on newer scientific understandings of metabolic processes and the mucosal membrane functioning in cholera, while synthesizing different research strands on diarrhoea and metabolic functions in a succession of trials. Among other findings, the role of glucose as a carrier enabling sodium transport across the mucosal membranes proved crucial. After initial clinical trials of oral rehydration in the Philippines in 1962, a rapid succession of large clinical field trials in South Asia followed. If administered incorrectly, oral rehydration can (and did in early trials) result in patients' deaths. The development of an oral rehydration therapy that could be considered both effective and safe was a complicated process and a long journey, not just one discovery. [23] A number of studies and settings

21 Some additional funding in this phase of the laboratory's existence came from Great Britain and Australia.

22 W. H. Mosley, The Pak-SEATO Cholera Research Laboratory, in: J. Sack/M. A. Rahim (eds.), Smriti. ICDDR,B in Memory, Dhaka 2003, p. 58. For the importance of geostrategic considerations for US development aid: Carol Lancaster, Foreign Aid: Diplomacy, Development, Domestic Politics, Chicago 2006; L. A. Picard/T. F. Buss, A Fragile Balance: Re-examining the History of Foreign Aid, Security, and Diplomacy, Sterling, VA 2009.

23 The NAMRU researcher who was responsible for the trials that resulted in five deaths in the Philippines later directed the Cholera Research Laboratory and there tried to slow or shut down further trials, but was overruled by several young and eager scientists. From the published account of the Philippine trials, later considered to be one of the most important steps, Phillips omitted the fatalities: R. A. Phillips, Water and Electrolyte Losses in

were instrumental in the progression from dangerous clinical trials in 1962, to the first perfected version of oral rehydration therapy in 1968/69. Most of the translation from basic to applied science can be attributed to the research institutions named above, including vice-versa confirmations of hypotheses and study findings.[24]

The history of diarrhoeal diseases control is compelling in terms of the role of biomedical research and technology in an international health campaign. Changing knowledge and a new technology recast the role development agencies saw for themselves and attributed to the disease. Diarrhoeal diseases had long been known to be a major public health problem in the developing world. But what had seemed like a condition that could only be brought under control through general socioeconomic development – concerning, for example, sanitation, water, and nutrition – now could be imagined as being easily solvable through a programme directly targeting this group of diseases. Soon after "the simple solution" (as oral rehydration came to be called) had been discovered, the South Asian research was translated into a global public health programme, and further developed in these new circumstances along the way. The potential of this new medical technology, cheap and easy to administer as it was, quickly became obvious to international health experts. Its feasibility in the most adverse circumstances became apparent in 1971, when during the Bangladesh independence war a cholera epidemic broke out in refugee camps in India. Indian ICMR researchers administered oral rehydration fluids in huge quantities in one of the refugee camps. With a grant from the World Council of Churches (the ICMR funds could not be used for "humanitarian purposes"), they reduced the camps' mortality figures quickly from over 30 % to about 3 %.[25] This demonstration of successful mass application of oral rehydration usually is considered as a major breakthrough for international attention. In 1978, the influential medical journal *The Lancet* therefore considered the entire discovery process of oral rehydration to be "potentially the most important medical advance this [i.e., the 20th] century".[26]

One of the cholera managers at the World Health Organization in Geneva, Dhiman Barua, was himself a cholera expert who had been affiliated with the ICMR research before joining the WHO. He closely observed the research in South Asia. Already in the late 1960s, the WHO included the general therapy of oral rehydration in its lists of recommended health interventions. The WHO and especially its Regional Office for South Asia (SEARO) advised member states to use oral rehydration, 16 countries being active by the mid-1970s. Together with UNICEF, an effort at standardization of the therapy was launched. In the mid-1970s, expert committees set a standard for the exact

Cholera, in: Federation Proceedings 23 (1964), pp. 705-712. For the early trials in Dhaka see, e.g.: D. R. Nalin / R. A. Cash / R. Islam / M. Molla / R. A. Phillips, Oral Maintenance Therapy for Cholera in Adults, in: The Lancet 7564 (1968), pp. 370-373.

24 This is detailed in Ruxin: Magic Bullet (15).

25 D. Mahalanabis et al., Oral Fluid Therapy of Cholera among Bangladesh Refugees, in: The Johns Hopkins Medical Journal 132 (1973), pp. 197-205. Letter from T. W. Simpson to F. Bang, 31 May 1972; Letter from T. W. Simpson to S. Mitton, 25 April 1972; Memo by T. W. Simpson, Participation of JH-CMRT in Bangla Desh relief work, 30 October 1971, all in The Johns Hopkins Medical Archives, BOX 123DD6.

26 Water with Sugar and Salt. Editorial, in: The Lancet 312 (1978) 8084, p. 300.

composition of oral rehydration fluids, to be called Oral Rehydration Solution (ORS), in the midst of both enthusiastic support as well as medical criticism of premature action with too shaky a clinical data basis – and indeed the standard was revised in some of the details several times in the following decade.[27] Since the early 1970s some WHO officials advocated and planned a large programme for the control of diarrhoeal diseases through the use of ORS,[28] ensuring the support of the Director-General and a number of member states. At the 31st World Health Assembly in 1978, delegates of WHO member states passed resolution WHA31.44, urging the organization and the member states to identify diarrhoeal diseases as a major priority area for action. Subsequently, the World Health Organization together with UNICEF, the United Nations Development Programme (UNDP) and the World Bank in 1979 initiated a global Special Programme for Diarrhoeal Diseases Control (CDD). In the late 1970s diarrhoeal diseases control thus became a priority on the international health agenda, and during the 1980s most major international and bilateral aid donors as well as over 100 developing countries became involved in this control effort.

Diarrhoeal Diseases Control on the International Health Agenda

Within the international health community the new technology was regarded as a major and much-needed progress not just because of the ongoing cholera pandemic. The issue was reframed, with oral rehydration no longer being predominantly advocated as a cholera intervention in a bacterial diseases framework (where the research originated and most health policy had been concerned) but as a major step to reduce childhood mortality. Diarrhoeal diseases of all aetiologies over-proportionally affect infants and children. Additionally, dehydration occurs much faster in children, thus augmenting mortality rates. Statistics in the 1970s for most regions were fragmentary at best. However, the general problem was well-known by the time,[29] and data was robust enough to conclude that diarrhoeal diseases were the primary cause of death of infants and children under five in practically every poor country in the world. A 1977 report by the Pan-American Health Organization (PAHO) stated, "Sickness, disability and death from the diarrheal diseases produce global statistics which are literally incomprehensible."[30] WHO estimates in 1978 assumed about 500 million diarrhoea episodes a year and attributed anything

27 Annual Report of the Cholera Research Laboratory, 1976, p. 17.

28 Miracle Cure for an Old Scourge. An Interview with Dhiman Barua, in: Bulletin of the World Health Organization 87 (2009), pp. 91-92; N. F. Pierce / N. Hirschhorn, Oral Fluid: A Simple Weapon against Dehydration in Diarrhoea. How it Works and How to Use it, in: WHO Chronicle 31 (1977), pp. 87-93.

29 See for example the work of the Instituto de Nutrición de Centro América y Panamá (INCAP), e.g. J. E. Gordon / M. Behar / N. S. Scrimshaw, Acute Diarrhoeal Diseases in Less Developed Countries, in: Bulletin of the World Health Organization 31 (1964), pp. 1-28; N. S. Scrimshaw / C. E. Taylor / J. E. Gordon, Interactions of Nutrition and Infection, Geneva 1968.

30 Pan American Health Organization (PAHO), Sixteenth Meeting of the PAHO Advisory Committee on Medical Research, Washington D, 11-15 July 1977: The Diarrhoea of Travelers, PAHO/ACMR 16/11, p. 1.

between "5 to 18 million deaths" annually to diarrhoeal diseases.[31] While experts agreed that there was a need for more research in all areas of diarrhoeal diseases prevalence and control, oral rehydration finally seemed to be a starting point to tackle "one of the greatest social evils" in the world.[32]

Child health programmes at the time were supported. Not only did they address priorities of the WHO's Primary Health Care initiative, UNICEF also broadened the scope of its health-related work while the World Bank's focus on poverty was compatible with combating child health as well. As modernization theorists' assumptions about quasi-automatic paths of economic and social development were questioned, the role of health in the overall development process was reconsidered. The control of the major cause of death of poor children with the help of a simple "appropriate" technology fitted into any of the health agendas delineated above. Child health was invoked not just as a human right, but also as a means of achieving higher economic productivity and breaking the cycle of poverty. Diarrhoeal diseases were argued to be a prime cause of malnutrition in poor countries, thus hampering individuals' abilities for overall social and economic development.[33] These arguments were complemented by another top priority of the 1970s development policies: the control of population growth. The "Child Survival Hypothesis" postulated that the survival of children was a necessary condition for women to voluntarily reduce birth rates. This would contribute to the demographic transition that could no longer be assumed to happen automatically as well as to the prevention of the much-feared "population explosion" in the developing world.[34] It may be these frameworks as much as the constant presence of the problem in developing countries that explain the striking difference in the assessment of the value of oral rehydration therapy in the international development community on the one hand, and the paediatric communities in "developed" countries on the other. While the former enthusiastically embraced the new technology, the latter vehemently voiced scepticism about such a seemingly second-rate, low-tech intervention that was regarded as a poor substitute for antibiotics and intravenous therapy.[35]

31 Development of a Programme for Diarrhoeal Diseases Control. Report of an Advisory Group (Geneva, 2-5 May, 1978), WHO/DDC/78.1, p. 4.

32 WHO/DDC/78.1, p.4; Summary of Activities in the Field of Diarrhoeal Disease Control in the American Region, 1954-1958, prepared by Pan American Sanitary Bureau / Regional Office of the WHO for the Americas, WHO D.D. 2 (August 1958); Review of the Present Situation of Diarrhoeal Diseases and their Importance from the World Health Point of View, by L. Le Minor, Institut Pasteur Paris, August 1958, WHO/D.D./3; and the further reports in this record group; WHO Diarrhoal Diseases Advisory Team in co-operation with medical services of Mauritius: Report of a Survey of Diarrhoeal Diseases in Mauritius (March-May 1960), WHO/Ent/66.1 and the further reports in this record group; N. Y. H. Blaise / D. B.Dovie, Diarrheal Diseases in the History of Public Health, in: Archives of Medical Research 38 (2007), pp. 159-163.

33 See the works cited in footnote 30.

34 For an overview of the discussion, see: C. E. Taylor / J. S. Newman / N. U. Kelly, The Child Survival Hypothesis, in: Population Studies 30/2 (1976), pp. 263-278; and L. C. Chen / S. Ahmed / M. Gesche / W. H. Mosley, A Prospective Study of Birth Interval Dynamics in Rural Bangladesh, in: Population Studies 28 (1974) 2, pp. 277-297.

35 See for an assessment from one of the oral rehydration proponents: C. C. J. Carpenter, Treatment of Cholera: Tradition and Authority versus Science, Reason and Humanity, in: The Johns Hopkins Medical Journal 139 (1976), pp. 153-162. Compare also M. Echenberg, Africa, pp. 103-105 (2); N. A. Daniels et al., First do no Harm. Making

The development community support for diarrhoeal diseases control in general is exemplified in the rapid establishment of the WHO Special Programme for Diarrhoeal Diseases Control and the substantial financial commitments of large development donors.[36] As one of the roundabout ten Special Programmes, the CDD was only marginally funded by the WHO's regular budget and instead financed by WHO member states' extra-budgetary funds (EBFs). The influx of EBFs marks a structural change in the WHO's funding, which became more significant during the 1980s and the early 1990s. A number of member states – out of dissatisfaction with WHO priorities, management, or results – froze or reduced their regular annual contributions and instead increased EBFs to special programmes. This ensued a more direct donor influence on overall as well as specific programme priorities. EBFs accounted for about 25% of the WHO's total budget in 1970, which rose to 40 % in 1980 and in 1990 exceeded 50 %.[37] As for the CDD, only 12.5 % of its budget came from the WHO's regular budget, with the remainder being provided by approximately 20 donors, among them member states such as the USA, Great Britain, and Sweden, and international institutions such as UNICEF, the UNDP, and the World Bank. The CDD budget rose throughout the 1980s, from about US$ 15 million for the 1982–83 biennium to US$ 21.5 million in 1986–87. The early 1990s saw a slight decline, which accelerated swiftly in the mid-1990s.[38] While pure fi-

Oral Rehydration Solution safer in a Cholera Epidemic, in: American Journal of Tropical Medicine and Hygiene 60 (1999), pp. 1051-1055; M. Santosham et al., Oral Rehydration Therapy for Diarrhea: An Example of Reverse Transfer of Technology, in: Pediatrics 100 (1997), http://pediatrics.aappublications.org/content/100/5/e10.full.pdf, access: 2013-09-16. Numerous letters to the "Diarrhoea Dialogue" Newsletter throughout the 1980s name the paediatricians' reluctance to use oral rehydration therapy as serious problem. An analysis of the complex motivations behind this reluctance is beyond the scope of this paper. The degree of resistance in the United States is exemplified in three large conferences on oral rehydration conducted between 1981 and 1985; one of their targets was to convince the US paediatric professional community to support the new technology. See, e.g.: R. M. Clay, ICORT Follow-Up Activities, during the period November 1, 1983-March 9, 1984, AID/DSPE-C-0053, Assgn. No. 583154, http://dec.usaid.gov/index.cfm?p=search.getCitation&rec_no=34133, access: 2013-09-16; ICORT Conference Proceedings, Washington DC, 7-10 June, 1983; ICORT, in: Diarrhoea Dialogue issue 14, August 1983, p. 2.

36 The actual sums spent to this avail cannot be reconstructed in a meaningful way, see: PATH 2011, pp. 11-12. Too many donor agencies and states with national CDD programmes invested large sums. For many funds, diarrhoeal diseases control is subsumed with other child health activities. Apart from the CDD programme as administered by the WHO, budgets for some agencies can be partially reconstructed, e.g., for the USAID: the USAID provided close to US$70 million for diarrhoeal diseases activities between 1983 and 1985 alone; a major Child Survival Programme launched by the USAID in 1985 was allocated the initial sum of US$85 million, with diarrhoeal diseases control one of the two main features. Between 1983 and 1984, expenditure on ORT by the USAID was nearly doubled; at the end of 1984, the US Congress approved another US$85 million in 1985 for health, nutrition, and child survival with ORT as a major component. AID focused at this time on social marketing and ORT, and on mass media use for health education. In early 1985, the agency had already distributed 10 million packets of standardized ORS worldwide. See for this information: United States Agency for International Development, Oral Rehydration Therapy: A Revolution in Child Survival. A.I.D. Science in Development Series, Weston Mass. 1988; AID, review of ORT activities, in: DD issue 20, March 1985, p. 2. In the fiscal year 1988, 39% of USAID funding went to the Child Survival Fund, another 33% to different health activities. Oral Rehydration Salts production, distribution, marketing, and research are marked with 22% of the overall budget, see: Child Survival. Fourth Report to Congress on the USAID Programme, Washington DC 1989, p. 6.

37 J. P. Vaughan et al., WHO and the Effects of Extrabudgetary Funds: Is the Organization Donor Driven?, in: Health Policy and Planning 11 (1996), pp. 253-264.

38 Proposed Programme Budget for the Financial Period 1984–1985, CDD/83.2; Proposed Programme Budget for

nancial proportions cannot by themselves reveal much about the influence of individual institutions in the development field, the numbers corroborate a general assessment in the interpretation of the WHO's history: while official WHO policy emphasised the integration of all activities in a primary health care framework, the agency had limited control over the Special Programmes oriented along the lines of disease-specific vertical programmes running parallel to other international health activities and, in the eyes of critics, "undermining" the integrative PHC agenda.[39]

The CDD formed a separate unit with a staff of a programme director and 20–25 programme managers in the Geneva headquarters, with additional staff in the WHO Regional Offices. Their job was to coordinate global efforts and assist all interested member states in setting up national CDD programmes. One major task was to initiate, support, and evaluate member states' national programmes. Their interest exceeded the CDD's expectations. Two years after the foundation of the CDD programme, almost 50 countries had developed national CDD programmes, 30 of which were classified as being operational. In early 1983, 60 countries had formulated plans, in 1984 the number rose to 95, with 75 country programmes being categorized as operational. The total number of countries rose to over 120 in the course of the CDD activities.[40] These country programmes obviously varied greatly in their size and scope, with ambitious goals being set for example in Bangladesh, Egypt, India, and Mexico.[41]

As for the organization and priorities of the CDD in Geneva, the immediate objective was to reduce diarrhoea-related mortality in children by widespread implementation of oral rehydration therapy and by improving feeding practices, especially by promoting breastfeeding. The long-term objective was a significant reduction of morbidity through the improvement of child care practices, the provision of safe water supply and sanitation, epidemiological surveillance and the control of epidemics. Through these preventive measures, diarrhoeal diseases should "cease to be a major public health problem" through all "appropriate control measures",[42] which would break the "vicious cycle of

the Financial Period 1986-1987, CDD/85.1; DDCP, Report of the Third Meeting of the Management Review Committee, Geneva 12 April 1983, CDD/MRC/83.2, p. 5; DDCP, Report of the First Meeting of the Management Review Committee, Geneva, October 7 1981, CDD/MRC/81.8, p. 3. All accessible at the WHO Archives in Geneva.

39 F. Godlee, The World Health Organisation: WHO's special programmes: undermining from above, in: British Medical Journal 310/178.2 (1995), http://www.bmj.com/content/310/6973/178.2.extract, access: 2013-09-16.

40 DDCP, Report of the First Meeting of the Management Review Committee, Geneva, October 7 1981, CDD/MRC/81.8, p. 3; Report of the Fifth Meeting of the Steering Committee of the Scientific Working Group on Drug Development and the Management of Acute Diarrhoeas (Geneva, 20-21 September 1982, WHO Archives, CDD/DDM/82.3, p. 2; DDCP Fact Sheet, CDD/83.1, p. 2; Report of the Sixth Meeting of the Steering Committee of the Scientific Working Group on Drug Development and the Management of Acute Diarrhoeas (Geneva, 6-8 April 1983), CDD/DDM/83.1, p. 2; DDCP, Report of the Fifth Meeting of the Management Review Committee, Geneva 10 April 1985, CDD/MRC/85.1, p. 2.

41 The remaining archival sources on the CDD at the WHO Archives in Geneva are largely organized in a country structure, which allows one to follow individual country programmes. Additionally, progress reports on individual national programmes reveal (often overly optimistic) facts about scope and size. See, for example: John Snow Inc., Taming a Child Killer: The Egyptian National Control of Diarrhoeal Diseases Project (NCDDP), Boston 1995.

42 WHO/DDC/1978.1, p. 7.

diarrhoea and malnutrition".[43] The CDD had two integrated components: implementation or health services support and research. [44] The first component was focused on supporting member states' national CDD programmes. The WHO's activities included support in formulating national plans; the training of programme managers through technical training manuals and management courses; and setting up the logistics for national diarrhoea control activities.

Oral rehydration therapy was considered to be "at the heart" of the diarrhoeal diseases control efforts, which implied a focus on curative care and case management for most phases of the CDD programme.[45] Oral rehydration therapy stood for a range of different things: oral rehydration could refer to the basic medical principle of rehydrating a dehydrated patient through some mixture of glucose or sucrose, electrolytes, and water; could stand for the WHO/UNICEF standard composition for this medical technology, written in capitals as Oral Rehydration Therapy (ORT) to distinguish it from the basic principle; and could refer to the modified version relying on the ORT standard, known as Oral Rehydration Salts (or Sachets, ORS), further standardizing the basic principle with regard to package sizes, packing materials, production facilities, ingredients, etc.

Throughout the CDD's existence, there were debates and conflicts over which version of oral rehydration the global programme should rely on. Initially, a marked privileging of the commodity of ORS is clearly noticeable in the international agencies. Programme priorities and activities were sought to foster the rapid mass production, dissemination, and usage of ORS on a global scale. UNICEF publicized an optimistic perspective on diarrhoeal diseases control: "The need for ORT is clear. The technology is known. The means of dissemination are available. The receptiveness of parents has been demonstrated. The cost is small. And only an inexcusable lack of national and international will can now prevent the bringing of its benefits to the vast majority of children in need."[46] It soon became clear for all involved that the task was not that simple. UNICEF took over the production side, not only commissioning large quantities of ORS sachets (roughly between 40 and 150 million packages per biennium since the CDD's existence), but also helping to set up industrial production facilities following one global standard for ORS in numerous countries. Local production of ORS in over 60 participating countries quickly rose from a marginal position to two-thirds of all production, e.g., over 400 million packages in the year 1991.[47] The CDD in Geneva was supposed to facilitate na-

43 See, for one of numerous accounts: M. Rahaman / S. N. Pombejr, Breaking the Vicious Cycle of Diarrhoea and Child Malnutrition in Bangladesh, in: UNICEF News 101 (1979), pp. 14-17.

44 Financially, the health services component was stronger, with about 60% of all funds allocated to this branch, 75% of which was distributed to the WHO Regional Offices. DDCP, Report of the Fifth Meeting of the Management Review Committee, Geneva 10 April 1985, CDD/MRC/85.1, p. 5; 4th MRC meeting.

45 USAID, Oral Rehydration Therapy, p. x.

46 UNICEF State of the World's Children Report 1982–1983.

47 For these numbers, see: World Health Organization, Programme for control of diarrhoeal diseases. Ninth Programme Report 1992–1993, Geneva 1994, WHO/CDD/94.46; World Health Organization, The Evolution of Diarrhoeal and Acute Respiratory Disease Control at WHO. Achievements 1980–1995 in Research, Development, and Implementation, Geneva 1999, WHO/CHS/CAH/99.12.

tional plans for distribution. Additionally, educational activities were an issue of growing concern. The CDD created training manuals to be distributed widely. It organized and financed over 7,000 clinical training courses for health personnel from all parts of the health care systems. Over 500,000 health workers from more than 100 countries were trained in the workshops offered by the WHO's CDD alone. For these workshops, the CDD relied on a number of health facilities in member states, where internationally composited groups were taught in clinical diarrhoea management. In the later stages of the programme, the focus was readjusted to support the construction of national specialized Diarrhoea Training Units (DTUs) that were hoped to be more sustainable.[48] While these efforts were targeted largely at health professionals, social marketing mass media campaigns were designed in order to reach the general population. A 1978 report stated, "The challenge today is to provide replacement of diarrhoeal losses with oral rehydration fluid as early as possible during illness. At present this cannot be done on the massive scale necessary by depending on the existing health care delivery systems with their limited coverage and outreach. This problem can be overcome only by a more universal dissemination of rehydration services which in the case of diarrhoea in children must include participation of mothers in this health care process."[49] The design, planning, and execution of mass campaigns in health education with leaflets, radio, and television spots – adapted and tailored to the circumstances and health-related beliefs in each country – were supposed to convince caregivers of children to use oral rehydration, and to do it correctly.

The programme managers set ambitious targets for ORS production as well as ORS use. While original targets for ORS production were overachieved in the course of the 1980s, it was ORS use that proved to be problematic. The continuous gap between ORS production and ORS use as well as widely differing numbers in countries with national diarrhoeal diseases control programmes questioned the original assumption that ORS provided a "simple solution" regardless of social or cultural circumstances.[50] Before describing the responses to these problems, it is necessary to consider the second basic task of the CDD programme: research promotion in diarrhoeal diseases.

Research promotion at the WHO was guided by advisory teams and usually took one of two forms. WHO departments could install Scientific Working Groups (SWGs) with specific topics and appoint the members, financing their regular meetings and the dissemination of meeting reports. It was assumed that ongoing discussion among international experts would lead to research projects addressing the most pressing needs identified in the SWG, with some of the necessary research being funded by the WHO. The CDD initiated several SWGs, both on global and on regional levels. Initially, the

48 WHO Publications of Training courses, CDD/ARI Programme Management. A training course, WHO/CDR/95.12; Diarrhoea Training Unit, Director's guide, CDD/SER/86.1 Rev.1; Teaching materials, CDD/SER/88.1; Diarrhoea management training course, CDD/SER/90.2 Rev. 1. All accessible at the WHO Archives.

49 WHO/DDC/78.1, p. 8.

50 See: WHO, The Evolution of Diarrhoeal and Acute Respiratory Disease Control at WHO for targets and achievements.

CDD's SWGs focused on disease etiology, but soon after better clinical case management with an emphasis on further research in oral rehydration dominated the agenda. Around 1990, research in prevention grew in importance, which had been paid little attention before. The second tool for research promotion at the WHO was to cooperate with WHO Collaborating Centres. Most WHO programmes had formal ties with a number of research institutions, such as university departments, renowned laboratories, or independent research institutes. Collaborating Centres were designated through the initiative of a WHO unit or department after several years of successful collaboration with the WHO in carrying out jointly planned research activities. The formal ties with Collaborative Centres implied regular consultations and continuous representation in the programme's Advisory Committees, SWGs, and planning meetings. While the CDD had ties with a range of Collaborative Centres, one institution stands out in its importance both for the CDD and for the global efforts in diarrhoea control in general. Its role in the global network of medical knowledge and policy raises questions concerning the relationship between basic and applied research; between field research and policy formulation in bureaucratic headquarters of international medical institutions; and concerning the role of institutions and epistemic communities in international health.

The International Centre for Diarrhoeal Disease Research, Bangladesh: Regional Knowledge Production and its Influence on Global Programmes

The Cholera Research Laboratory in Dhaka had developed into a major centre of diarrhoeal diseases research, while further growing in importance after its transformation into an international research institute. The agreements with Pakistan that had initially brought about the CRL lost their relevance after Bangladesh's independence in 1971, leaving the laboratory's future uncertain. For various reasons, all interested parties agreed that the CRL's continuation was desirable, even though the envisaged agenda and structure varied considerably. The internationalization was preceded by provisory institutional forms and long, tenacious negotiations under the UNDP's on the laboratory's future, which benefitted from a Ford Foundation grant and thereby allowing its continued existence during the negotiations. These negotiations, as far as they can be reconstructed, reveal the interests of a number of participants. Representatives from about a dozen national governments, philanthropic foundations such as the Ford Foundation, and international organizations like the WHO participated in this process. Whereas the USAID and the NIH favoured a structure that would retain their control over the institution, the government of Bangladesh strongly opposed a predominantly American institution, not least because the recent war had revealed US allegiances to Pakistan and manifested the disadvantages of depending on one single donor. The Bangladeshi government wanted a legal structure that secured national authority over the institute, while, for a time, differences in opinions between the Bangladesh Planning Commission and the Ministry of Health brought the negotiations to a halt. The Ford Foundation, as well as the UNDP,

favoured an international institution modelled in some form on the agricultural research institutes and thus argued for a fundamental transformation of its structure. The WHO expressed "strong support, indeed enthusiasm" for the institute and especially for "a formal WHO relationship". However, the WHO "fear[ed] an independent lab" and wanted to bring it under its wings, something that neither the representatives of the numerous American institutions nor the Bangladeshi government thought to be desirable. Sweden, an important development donor, supported the institution, being contingent upon a strong scientific and managerial presence of researchers from developing countries.[51]
The result was the creation of the International Centre for Diarrhoeal Disease Research, Bangladesh (ICDDR,B) in 1978, financed by a variety of 20 donors (growing to over 50 in the years to come) and operating under Bangladeshi law. It was guided by an international Board of Trustees, composed of renowned diarrhoeal diseases experts from both developed and developing countries, reserving seats for the Bangladeshi government, the Americans, the WHO, and UNICEF.[52] Deliberate attempts were made to "de-Americanize" the institution: the USAID agreed to continue its numerical financial support, with the expectation to reduce its overall proportion from about 85 % to about 25 % within a few years, resulting in the reduction of the number of American scientists. Relations with US institutions, nonetheless, remained among the closest ones, with scientists from Johns Hopkins, the NIH, and the Centers for Disease Control (CDC) regularly being seconded to the ICDDR, B. While the director had to be a non-Bangladeshi citizen, the majority of researchers and middle management over the years were staffed with (often internationally trained) Bangladeshis. Governmental institutions in Bangladesh reserved rights to approve research designs and control compliance with Bangladeshi ethical standards. Thus the ICDDR, B developed into an international research institute with a mandate as well as a network of donors and of governing bodies that allowed it to work independently from any one partner, donor, or agency without reducing its general dependency on development aid and the oscillating international health agenda. Its first budget as an internationalized institute amounted to roughly US$ 3 billion, and quickly multiplied within the next years. For the 1980s the annual budget fluctuated between US$8 and eleven billion.[53] The support for such an institution from a large variety of countries, foundations, and international organizations was due to its previous successes,

51 L. C. Chen, CRL Development Process, Status Report, 04 February 1977, Rockefeller Archive Center, Record Group II, General Correspondence (1927–1989), Portion Filmed 1977, Reel 46, 466: Cholera Research Laboratory, p. 3; Note by A.C.B [probably Alan Barnes] for the Rockefeller Foundation, Cholera Research Laboratory, Meeting in Washington, February 17, 1977, Rockefeller Archive Center, Record Group II, General Correspondence (1927–1989), Portion Filmed 1977, Reel 46, 466: Cholera Research Laboratory; Recommendation for Grant / DAP Action, Grantee: International Centre for Diarrhoeal Disease Research, Bangladesh, Request No. ID-3475, March 26, 1981, pp. 3-7, Reel R-4264, Ford Foundation Collection at the Rockefeller Archive Center.

52 Memorandum from L. C. Chen, An International Institute for Research in Health and Population in Bangladesh, to J. Bresnan and O. Harkavy, 14 October 1976, p. 2-3; Rockefeller Archive Center, Record Group II, General Correspondence (1927–1989), Portion Filmed 1977, Reel 46, 466: Cholera Research Laboratory. On the internationalization process and the ICDDR,B's structure, also see: Annual Report of the Cholera Research Laboratory 1977.

53 The annual budgets can be found in the ICDDR,B Annual Reports. They are accessible at the IDCCR,B Library in Dhaka, some at the National Library of Medicine, Bethesda, USA.

for example, in oral rehydration research; upcurrent for diarrhoeal diseases control; and the general perception that biomedical science could not be restricted to laboratories, but needed "field research" in order to tackle the problems of "health and population control". The latter was of paramount importance, for example, for the Ford Foundation support. In 1975 the international health expert Jon Rohde coined the phrase that there was a necessity of "taking science where the diarrhoea is";[54] the slogan was repeated often in the following years.

With the internationalization, the CRL's research agenda was considerably expanded and no longer limited to a narrow cholera focus. The mandate requested that the ICDDR, B "function as an institution to undertake and promote study, research and dissemination of knowledge in diarrhoeal diseases and directly related subjects of nutrition and fertility with a view of developing improved methods of health care and for the prevention and control of diarrhoeal diseases and improvement of public health programmes with special relevance to developing countries".[55] The following decade saw an expanding research profile on general maternal and child health, environmental and ecological issues of diarrhoea, vaccine research, clinical management of diseases of childhood, malnutrition, and fertility control. One of the ICDDR, B's strongest assets of interest to donors such as the Ford Foundation[56] was its capacity to undertake "multidisciplinary research using … 'natural experiments,' that is, situations in which health or social interventions are being introduced into large populations".[57] Already before the transformation into an international research institute, the CRL had begun to collect population-related data in the Matlab field area on a large scale, initially to conduct cholera vaccine trials. Since the mid-1970s, these data collections were expanded and used for general health and fertility control research and campaigns. Through its internationalization, the ICDDR, B held the most extensive database on population data anywhere in the developing world, which in the future would be used by many international researchers and policy makers.[58] For all areas of research, the centre pursued a close integration of research in the medical and social sciences, arguing that a "new analytical approach incorporating both social and medical science methodologies into a coherent analytical framework of child survival" was needed.[59] The ICDDR, B thus undertook research in disease etiologies, transmission patterns in Bangladeshi communities, malnutrition, a number of infectious diseases of childhood, disease prevention, cholera vaccines, hygiene, hand washing and

54 J. E. Rohde / R. E. Northrup, Taking Science where the Diarrhoea is. Acute Diarrhoea in Childhood (Ciba Foundation Symposium 42), 1975, pp. 339-366.

55 For the Ordinance, see, for example: ICDDR,B 4/BT/DEC. 82, Director's Report. Significant Happenings, p. 10, at ICDDR,B Library.

56 Memorandum from L. C. Chen, An International Institute for Research (52); RAC Record Group II, General Correspondence (1927–1989), Portion Filmed 1977, Reel 46, 466: Cholera Research Laboratory.

57 W. H. Mosley / L. C. Chen, An Analytical Framework for the Study of Child Survival in Developing Countries, in: Population and Development Review, Supplement: Child Survival: Strategies for Research (1984) 10, pp. 25-45.

58 See the many articles on Matlab in the Journal of Diarrhoeal Disease Research; the Matlab Censuses published by the ICDDR,B; the Matlab Demographic Workbook.

59 W. H. Mosley / L. C. Chen, Analytical Framework (57).

sanitation, the social behaviour influencing health, community use of medical centres, family planning, and many more topics.[60]

The ICDDR, B over the coming years evolved into a research institution of considerable importance to the global diarrhoeal diseases efforts. A USAID review of global diarrhoeal diseases control in 1988 remarked, "In addition to its own work, most of the leading scientists currently active in research on diarrhoeal disease around the world have been on staff at the Dhaka centre of have otherwise been heavily influenced by its work."[61] The centre deliberately sought a global radius and put emphasis on disseminating its research through various channels. The ICDDR, B established its own Journal on Diarrhoeal Disease Research with a focus on the Asian research community, hosted or co-organized international conferences in Asia, Africa and North America, and advised governments and hospital managers through expert teams in Saudi Arabia, Yemen, China, Kuweit, Egypt, Indonesia, Colombia, Tanzania, Kenya, the Philippines and several other countries since the early 1980s. Short-term emergency response teams were active in most major cholera or shigella epidemics.[62] With a mandate for both research and teaching and assigned the centre to "provide facilities for training to Bangladeshi and other nationals in areas of the Centre's competence in collaboration with national and international institutions",[63] the ICDDR, B developed and regularly conducted workshops on all aspects of laboratory diagnosis and clinical treatment of diarrhoeal diseases. While the training component was strongly advocated and increasingly substantially financed by the Government of Bangladesh, it was designed as an international programme. Aside from formalized training relations with the Bangladeshi National Oral Rehydration Programme (NORP) and with the largest, NGO-led nationwide rehydration programme, over the years approximately 30,000 health workers from about 80 countries received training at the ICDDR, B as workshop participants or as research fellows.

The ICDDR, B's position in the international child health networks is an interesting question in order to establish, in a case study, the influence of regional research institutes on global health policy, and more general the influence of agents not situated in the "centres" of development policy formulation. Historians of development concepts and programmes have debated the issues of influence, as well as circulation or transfer of

60 The research conducted at the ICDDR,B was published in short summaries in the Annual Reports, which also contain a yearly bibliography detailing the research publications that involved ICDDR,B staff in the Journal of Diarrhoeal Disease Research as well as medical journals in general.

61 USAID, Oral rehydration therapy, p. x.

62 See, e.g.: A. K. Siddique et al., Why treatment centres failed to prevent cholera deaths among Rwandan refugees in Goma, Zaire, in: The Lancet 345 (1995), pp. 359-361; the accounts in J. Sack / M. A. Rahim (eds.), Smriti (22); ICDDR,B Board of Trustees Meeting, December 1982, Project Development Committee Report, ICDDR,B Library 4/BT/DEC.82; ICDDR,B Board of Trustees Meeting, December 1984, Director's Report, ICDDR,B Library 4/BT/DEC.84; ICDDR,B Board of Trustees Meeting, November 1985, Report of the BT Meeting November 26-28, 1985 Meeting Minutes, ICDDR,B Library 1/BT/NOV.85; ICDDR, B Annual Report 1983, p. 2.

63 ICDDR,B Board of Trustees Meeting, December 1982, p. 10 (62).

knowledge, practices, and policies in health policy.[64] Anthropologists have followed the path of questioning the relevance of global health policies for people's health behaviour in many locations,[65] a problem already talked about by the diarrhoeal diseases experts with regard to educational campaigns.[66] The purpose of this paper is less a perspective on the adaptation, "localization", and transformation of global policies under local circumstances, and rather a look at the other side of the coin of the mutual constitution of global and local policies, the influence of locally produced knowledge on global programme, and policy formulation.

The ICDDR, B management's position on its global reach was outspoken. Several Directors argued that the ICDDR, B served a worldwide interest, at least an interest for all developing countries, and used this argument to claim authority.[67] Bangladesh, it was argued, was a viable starting point for the formulation of global health policies, since it shared its problems with numerous other developing countries. The ICDDR, B was argued to be the best starting point for research into these problems, since it was one of few institutions that could perform interdisciplinary research into all aspects of diarrhoeal diseases in a developing country.[68] Taking a developing country perspective as starting point for global issues would alter the overall research agenda, as the first director wrote: "Those working in the field of global health and supporting this work must never again allow the major cause of death and illness to be left out of primary focus, as was the case historically when Tropical Medicine omitted the two largest killers in the world, diarrhoeal disease and acute respiratory infections from central consideration."[69]

Exactly how local research could provide viable results of importance to Bangladesh and the (developing) world was an issue of debate between the centre's management and the group of donors whenever research and social policies overlapped. In the first years of its existence, the ICDDR, B Director William B. Greenough III repeatedly voiced "a strong belief that neither research nor training can prosper without provision of the best health service possible to the people involved with our activities. Thus we view the large component of services rendered as intrinsic and necessary to any research and training."[70] This was argued to be more than an "ethical necessity"[71] or politically appropriate. It was also an integral part of the research agenda. However, the Dhaka hospital and the rural treatment centres were expensive. Donors repeatedly refused to fund them and argued

64 F. Cooper / R. Packard (eds.), International Development and the Social Sciences: Essays in the History and Politics of Knowledge, Berkeley 1997; H. Büschel / D. Speich (eds.), Entwicklungswelten: Globalgeschichte der Entwicklungszusammenarbeit, Frankfurt a. M. 2009.

65 See, for example: J. Justice, Policies, Plans, & People: Foreign Aid and Health Development, Berkeley 1986, and her other publications.

66 See for examples: USAID, Oral Rehydration Therapy; J. E. Rohde, To drink or not to drink, in: Diarrhoea Dialogue, (1980) 2, p. 4-5.

67 ICDDR, B Board of Trustees Meeting, December 1982, p. 1 (62).

68 Ibid., p. 9 (62).

69 ICDDR, B Board of Trustees Meeting November 1985, Meeting Minutes, ICDDR,B Library, 1/BT/NOV.85, p. 3.

70 ICDDR, B Board of Trustees Meeting, December 1982, p. 10 (62).

71 ICDDR, B Board of Trustees Meeting November 1985, BT/NOV.85, Annex II, "Goals and Priorities ICDDR,B 1985–1989", p. 1 (62).

that health-services delivery was the task of the government of Bangladesh, not of the ICDDR, B. Additionally, there was criticism of mismanagement of core funds. From 1981 onwards, more and more donors earmarked their funds, thus financing specific research projects and not the ICDDR, B as such. Maintaining the Dhaka hospital proved exceedingly difficult over the years and could only be achieved through the government's funding.[72] The discussions about service delivery and the hospital not only reflect money concerns, they also reveal differing conceptions of the politics of knowledge production. For the ICDDR, B management, every research necessarily was "localized", and thus the right location was of paramount importance for determining research trends, priorities and outcomes. In an opposite perspective, the location of research was essential because of prevalence of diseases and populations as a necessary resource, but the research agendas still could be defined with limited attention to local health needs. This issue reveals a variety of conceptions of the relationship between "the local" and "the global" and implications of globalizing as well as localizing knowledge production. It was only at the turn of the 1980s and 1990s that the proportions between core and project funding changed again, and the percentage of core funding increased, not least in order to be able to react to local circumstances, such as new epidemics or changes in disease prevalence.[73]

The ICDDR, B established close and formalized relations with the Diarrhoeal Diseases Control Programme in Geneva immediately after the internationalization and the establishment of the CDD. The ICDDR, B was not only used as a major training centre, its researchers also participated in the CDD expert advisory teams. The communication between the two institutions were intertwined not only through numerous visits (chronicled in the ICDDR, B Annual Reports), but also through frequent exchange of personnel. A number of CDD managers had worked in Dhaka before or went there after the WHO assignment, a back and forth of experts that ensured continuously open communication channels. At the same time, donor competition was fierce and hampered relations. The CDD could benefit from close ties with a constantly active research institute in a developing country; for the ICDDR, B, relations with the WHO were desirable

72 See: the ICDDR, B Annual Reports Introductions for almost every year during the 1980s, especially the late 1980s. The hospital is one example of this conflict; the Teknaf field research station would provide an additional example of this conflict of conceptions of research. For conflicts between management and donors, see, for example: ICDDR,B Board of Trustees Meeting February 1980, Draft Proceedings, Draft 25 March 1980, 5d/BT/Feb.80: External Scientific Relationships; ICDDR, B Board of Trustees Meeting November 1985, Resources Development Report, 5/BT/Nov.80, p.10, both at ICDDR, B Library; W. T. Mashler, ICDDR,B Consultative Group Meeting, New York, 17 June 1983, UNDP Memo GLO/77/014, 18 May 1983, Reel R-4262, the Ford Foundation Collection at the Rockefeller Archive Center; ICDDR,B: Training and Outreach Activities, Memo for the Ford Foundation, to W. Carmichael, 31 August 1982, Reel R-4262, the Ford Foundation Collection at the Rockefeller Archive Center; memo from L. C. Chen "WHO Meeting" to O. Harkavy, July 13, 1982, Reel R-4262, the Ford Foundation Collection at the Rockefeller Archive Center.

73 See the documentation on the establishment of the ICDDR, B Reserve Fund at the Ford Foundation, a major contributor: Grant File PA 850-0598, Reel R-5566, the Ford Foundation Collection at the Rockefeller Archive Center. A major shigella epidemic in Bangladesh in the 1980s was considered to be a prime example of changing disease patterns that required flexible research responses.

since donor decisions partly depended on the WHO's vote.[74] Additionally, the WHO funded some of the ICDDR, B's research, for example, in cholera vaccines.
Both institutions shared an emphasis on research in oral rehydration therapy. The ICDDR, B pursued numerous projects in finding better formulas and delivery systems of oral rehydration solutions. This included the evaluation of standardized ORS and the search for a "Super ORS" that would combine diarrhoea treatment with nutritional impacts. Additionally, the centre placed considerable importance on diversifying oral rehydration solutions to adapt them to staples available in different geographical regions. Substituting glucose with sucrose/starches, according to their studies, not only yielded better treatment results (a contested point) but also was economically and thus politically sound since it enabled a number of poor countries to produce oral rehydration solutions without having to import glucose. These attempts at substituting sugar with rice, plantains, maize, and other staples were published widely and discussed with the WHO regularly. The CDD accepted most results, but the WHO and UNICEF did not alter their ORS production or standards in order to integrate the "rice research". The ICDDR, B's influence on the CDD technical assistance component in this aspect was limited.[75]
Differences also arose over the use of home fluids. Instead of using the industrially produced, pre-packaged ORS "medicine" or commodity, caregivers could treat dehydration by mixing water, sugar (or rice water), and salt in the correct proportions at home, thus resorting to the basic principle of oral rehydration. These homemade, simplified solutions had the obvious advantage of better availability, but safety concerns were acute. The CDD commissioned evaluations and in 1984 produced a manual on Recommended Home Fluids (RHFs), but advised that these fluids should be considered a second-rate option and advertised an ORS-focused strategy to its member states. RHF required even more intense and successful educational campaigns than standardized ORS. However, the CDD integrated the administration of home fluids into the WHO definition of oral rehydration; initially restricted to the administration of standardized ORS, it was broadened in its scope. From 1984 on it included some forms of RHFs, and from 1988 on also continued feeding with appropriate foods in general. In 1991, the WHO's definition of oral rehydration was changed to define it as any increase in administered fluids.[76] This

74 ICDDR, B Board of Trustees Meeting November 1985, Resources Development Report, 5/BT/Nov.80, p.10, at ICDDR, B Library.

75 M. Molla et al., Rice-powder electrolyte solution as oral therapy in diarrhoea due to Vibrio cholera and Escherichia coli, in: The Lancet (1982), pp. 1317-1319; F. C. Patra et al.: Is Oral Rice Electrolyte Solution superior to Glucose Electrolyte Solution in Infantile Diarrhoea? in: Archives of Disease of Childhood 57 (1982), pp. 910-912; repeated accounts, e.g. in the Journal of Diarrhoeal Diseases Research; R. L. Guerrant / B. A. Carneiro-Filho / R. A. Dillingham, Cholera, Diarrhea, and Oral Rehyration Therapy: Triumph and Indictment, in: Clinical Infectious Diseases 37 (2003) 3, pp. 398-405; H. B. Wong, Rice water in treatment of infantile gastroenteritis, in: The Lancet 2 (1981) 8237, pp. 102-103; M. N. Mehta / S. Subramaniam, Comparison of rice water, rice electrolyte solution, and glucose electrolyte solution in the management of infantile diarrhoea, in: The Lancet 1 (8485), pp. 843-845; S. M. Gore / O. Fontaine / N. F. Pierce, Impact of rice based oral rehydration solution on stool output and duration of diarrhoea: meta-analysis of 13 clinical trials, in: British Medical Journal 304 (1992) 6822, pp. 287-291.

76 World Health Organization, Programme for the Control of Diarrhoeal Diseases: The Selection of Fluids and Food for Home Therapy to Prevent Dehydration from Diarrhoea: Guidelines for Developing a National Policy, WHO/

can be seen as a reaction to the fact that ORS usage rates did not grow to the extent that had been hoped for. However, RHFs were seen as a double-edged technology since incorrect and dangerous solutions brought safety risks.[77] ICDDR, B researchers performed a number of studies intended to evaluate the safety of Recommended Home Fluids. For these studies, the situation in Bangladesh proved to be favourable: a large NGO, the Bangladesh Rural Advancement Committee (BRAC), started a series of almost nationwide rehydration education programmes entirely relying on RHFs (called *lobon-gur*) exclusively produced from local staples. The ICDDR, B as a partner performed laboratory analyses of several hundreds of thousands of samples of home-produced *lobon-gur*, and was thus instrumental in making the solution safer.[78] In an international comparison, ICDDR, B researchers were by far not the only ones performing research in Recommended Home Fluids; however, they were among the most outspoken proponents of this approach and, as a Collaborative Centre for the global CDD programme, enjoyed a privileged position of making themselves heard.

The ICDDR, B record in influencing the global CDD is a considerable one. For some of the research undertaken in Bangladesh, the global resonance is obvious, such as for vaccine trials that resulted in WHO regulation revisions, ecological studies of the cholera vibrio that revised assumptions about the spread of cholera epidemics, or the identification of causal agents.[79] For others the results are mixed, as the "rice research" episode demonstrates. The field experience in Bangladesh and the research of ICDDR,B scientists helped to shape the strategies of the global campaign. Its record draws the conclusion that the role of international and regional research institutes for the formulation of global policies in the health sector should be taken into account when investigating the history of international organization programmes. The production of medical knowledge needs to be situated in its specific locations and circumstances. As has been argued for other fields of expertise, medical knowledge is far from being "objective". For an investigation of the social, political, and institutional structures of knowledge production, the role of research institutes within global networks of medical knowledge and policy is an interesting starting point.[80] Not only did postcolonial populations like the people of

CDD/93.44; C. G. Victora / J. Bryce / O. Fontaine / R. Monasch, Reducing Deaths from Diarrhoea through Oral Rehydration Therapy, in: Bulletin of the World Health Organization 78 (2000) 10, pp. 1246-1255.

77 For example PSEG Hartland et al., Composition of Oral Solutions Prepared by Jamaican Mothers for Treatment of Diarrhoea, in: The Lancet (1981), pp. 600-601.

78 M. R. Chowdhury, Evaluating Community ORT Programmes: Indicators for Use and Safety, in: Health Policy and Planning 1 (1986), pp. 214-221; USAID, Oral Rehydration Therapy, pp. 30-35 (45); J. E. Rohde (ed.), Learning to Reach Health for All: Thirty Years of Instructive Experience at BRAC, Dhaka 2005; R. A. Cash / M. R. Chowdhury, A Simple Solution: Teaching Millions to Treat Diarrhoea at Home, Dhaka 1996; C. H. Lovell, Breaking the Cycle of Poverty. The BRAC strategy, West Hartford 1992; M. R. Islam / W. B. Greenough / D. Sack et al., Labon-gur (common salt and brown sugar) Oral Rehydration Solution in the Treatment of Diarrhoea in Adults, in: The Journal of Tropical Medicine and Hygiene 83 (1980) 1, pp. 41-45. For the programme, also see: W. Cutting / K. Elliott, Agents of Change (editorial), in: Diarrhoea Dialogue (1980) 3, p.1; BRAC's oral rehydration programme 1980, in: Glimpse vol. 2 (1980) 1, p. 1-2. Diarrhoea Dialogue, (1980) 1, p. 2; see for the study: The Lancet (1979) 2, pp. 802-812.

79 R. R. Colwell, Global Climate and Infectious Disease: The Cholera Paradigm, in: Science 274 (1996) 5295, pp. 2025-2031.

80 Compare for this argument: Sunil Amrith, Plague of Poverty? The World Health Organization, Tuberculosis and

Matlab serve as "laboratories" for new medical approaches and remedies, international research organizations in developing countries also shaped distinct approaches to medical problems and health research, claimed global relevance, and deliberately influenced international organizations' agenda-setting processes. The ICDDR,B's research agenda was determined by multiple factors, with medical considerations being only one point among many. Independent field research as well as a cooperation with an NGO-led oral rehydration programme seemed to prove that Recommended Home Fluids were both safe and acceptable in local disease belief frameworks. Donor constraints and considerations tended to navigate the institute toward standardizations and away from service delivery. One strategy of success for the institute was to multiply donors, another to insist on the global relevance of the knowledge produced in Bangladesh. It was thus the global range that served as an argument for authority and relevance. While not an autonomous agent, ICDDR, B management and scientists were able to pursue a research agenda that was not entirely dependent on considerations in Geneva, New York, or Washington. As a transnational actor, the ICDDR,B brought together researchers from different institutional and epistemological cultures, thus allowing for multidirectional knowledge transfers. For the processes of transfer and translation into international organization policy and country programmes initiated by the WHO's CDD, standardization is a major issue (in the global ORS standard), with diversification (in RHFs) being a complementary issue especially since the late 1980s. It is a delicate task to discern longer-term balances between these two influences since the global efforts were considerably lessened by the mid-1990s.[81] Diarrhoeal diseases now were listed second in global child mortality figures, with the global diarrhoeal diseases control efforts left an unfinished goal. The end of the CDD as an independent programme in 1994 can be interpreted in a number of ways. The successor programmes further integrated diseases of childhood, but the Integrated Management of the Sick Child Initiative (IMCI) never gained the momentum the CDD enjoyed.[82] This lower importance of diarrhoeal diseases on the international health agenda can be attributed as a consequence of its success; but in light of prevailing high mortality figures this can only serve as a limited explanation. Vanishing institutional

International Development, c. 1945–1980, Dissertation, http://www.histecon.magd.cam.ac.uk/docs/amrith_WHO.pdf, access: 2013-09-16; M. Malowany, Unfinished Agendas: Writing the History of Medicine of Sub-Saharan Africa, in: African Affairs 99 (2000), pp. 325-349.

81 See: P. K. Ram's statistics; P. K. Ram / M. Choi / L. S. Blum / A. W. Wamae / E. D. Mintz / A. V. Bartlett, Declines in Case Management of Diarrhoea among Children less than five Years old, in: Bulletin of the World Health Organization 86 (2008) 3, http://www.who.int/bulletin/volumes/86/3/07-041384/en/, access: 2013-09-16; B. C. Forsberg B. C. / M. G. Petzold / G. Tomson / P. Allebeck, Diarrhoea Case Management in low- and middle-income Countries: An Unfinished Agenda, in: Bulletin of the World Health Organization 85 (2007), pp. 42-48; PATH, Diarrhoeal Diseases Control gives a brief but concise overview of recent statistics both for mortality statistics and for ORS use. The end of the CDD also brought with it a marked decline in statistics so that they, from the mid-1990s on, again become scattered and incomplete. Compare also D. Werner / D. Sanders, Questioning the Solution: The Politics of Primary Health Care and Child Survival with an in-depth critique of Oral Rehydration Therapy, Palo Alto 1997.

82 J. Bryce / C. G. Victora / J. P. Habicht / R. E. Black / R. W. Scherpbier, Programmatic Pathways to Child Survival: Results of a Multi-country Evaluation of Integrated Management of Childhood Illness, in: Health Policy Planning 20 (2005), pp. 15-17.

support, changes in the broader development frameworks with less emphasis on population control, and the end of a specific network of scientists-cum-managers predominantly in Geneva, Dhaka and Baltimore – who shared a vision and used the institutional support in order to set the health and development agenda and to publicize ORS as a global solution for a major health problem – are additional factors. The ICDDR, B managed to survive through broadening its scope and agenda. The consequential integration of diarrhoeal diseases into broader health topics was a successful strategy for this research institute, which enabled an expansion of its strategic partners and donors.

Summary

This article offered a case study in agenda setting in international health and the role of biomedical technology as well as institutional frameworks in an international health campaign. It was the development of a simple health intervention treatment for most diarrhoeas that recast the problem for health policy makers. Struggles over commodification, education, and community participation continuously accompanied the global programme in diarrhoeal diseases control. Institutional frameworks for research and technical cooperation, as well as the political discussions on the nature of social and economic development, influenced the agenda of diarrhoeal diseases control and its place in the international health framework. Especially the influence of nation-states as different as the United States and post-independent Bangladesh has been looked at. The story of the ICDDR,B sheds light on the complexities of health-policy agenda setting with a focus on the appropriation of global programmes by non-Western institutions, arguing that individual national interests cannot be separated from institutional cultures and intellectual currents such as Primary Health Care. While biomedical "progress" was a game changer when the programme came about in the 1970s, it cannot serve as explanatory factor for the status, outlook, and priorities of the global programme alone, as discussion about commodification, standardization, and education reveal. A closer look reveals a less linear, and more "politicized", story.