

Parasitic diseases in water resources development

The need for intersectoral negotiation

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Preface

One of the cornerstones of WHO's Global Strategy for Health for All by the Year 2000 is intersectoral collaboration, and various resolutions of the World Health Assembly have encouraged WHO and its Member States to promote such collaboration in order to address the health aspects of development policies.

The increased awareness of the environment, together with the feasibility of controlling parasitic diseases, provides a good opportunity to focus attention on the health impact of development. Several such diseases can be exacerbated by water development projects unless appropriate measures for prevention and control are incorporated from the beginning. The health sector therefore needs to be involved at every stage of such projects in order to ensure that socioeconomic development does not bring about a deterioration in health status.

This book reviews the documented health impact of various water resources development projects and discusses the actions that could have mitigated the adverse effects. The message derived from the analysis is that sound proposals to control parasitic diseases could and should have been included in the development dialogue. For this to occur, the health sector needs to take a much more active role in ensuring that other sectors are aware of the potential health impact of development projects.

The analysis given here is of necessity incomplete and with a bias related to the ease of availability of data. The documentation of negative effects is not intended to be a deterrent to development. Rather it is hoped that it will encourage more complete and systematic monitoring of the health effects of water resources development, and provide a guide to the risks to be considered and the input needed from the health sector.

Readers are invited to send any information, comments or suggestions related to this publication to Chief, Schistosomiasis and other Trematode Infections, Division of Control of Tropical Diseases, World Health Organization, 1211 Geneva 27, Switzerland.

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1.

Introduction

The development of water resources is essential for a wide range of human activities. In particular it is needed so that demands for energy and food can be met. However, during the past ten years, certain adverse effects of water resources development have received considerable attention. The rate of population growth in developing countries continues to outstrip their capacity to meet the demands for food and basic services amid increasing poverty. The prospect of environmental degradation in the face of development was examined by the World Commission on Environment and Development (1987). The health impact of this degradation was emphasized in the report of the WHO Commission on Health and Environment, *Our planet, our health* (WHO, 1992a). This report contributed significantly to the debate on the impact of development on the environment and health at the Earth Summit, the United Nations Conference on Environment and Development, held in Rio de Janeiro in June 1992.

Development policies designed to improve the economic conditions and living standards of communities often have unintended effects on health (Cooper Weil et al., 1990). Thus, health policy is not a matter solely for the health sector, and it is now accepted that there should be health objectives in water resources development. Furthermore, the identification of vulnerable groups and their health risks is necessary so that adverse socioeconomic factors can be combated.

Awareness of the negative health effects of development, particularly in respect of parasitic diseases, has not led to consistent action either in the planning stages of projects or at the first signs of unfavourable consequences. During the 1970s, the public began to appreciate that economic development could produce adverse effects on human health, as pointed out by Hughes & Hunter (1970). Since then the epidemiological factors contributing to the introduction, spread or aggravation of parasitic diseases have become more fully understood. There have been advances in diagnosis and treatment, and options for community-based health care delivery have become available. Moreover, the connections between health, environment and development have become clearer. The inadequacy of data on the link between economic

considerations and environmental events cannot excuse a failure to reckon with the available health data. The underlying causes of poor health may be activities that seem remote from the observed effects. The focus of this book is justified by the significant amount of data available, the impact of parasitic diseases on people involved in or living near water resources projects, and the feasibility of mitigating, preventing and controlling these diseases.

It is now recognized that measures of mitigation and prevention should be a shared responsibility in the development process. Donors and entrepreneurs in developed countries can no longer claim ignorance of the potential negative health outcomes, nor can governments of developing countries justify the ecological changes inherent in water resources development on purely economic grounds. More importantly, the political will of developing countries to address these problems is now a matter of public record. The incidence and prevalence of parasitic diseases and certain other communicable diseases remain the most dramatic and reliable indicators of the negative health impacts of development in Africa, Asia and the Americas.

In earlier reviews, evidence was assembled to show the adverse disease impact caused by water resources development (Ackermann et al., 1973; Stanley & Alpers, 1975; Hunter et al., 1980, 1982). Action without consultation by different sectors was identified as the main factor engendering disregard and neglect of human health. A policy of integrated project development was offered, with carefully planned support for health maintenance in and around large reservoirs and irrigation systems.

Today, with a population doubling time of 34 years in the developing world, the need for dams and irrigation schemes is greater than ever before. In the 1970s the economic justification for constructing reservoirs began to be questioned (UNEP, 1982). The economic and nutritional justifications for expanding agriculture and irrigation remain paramount (Lipton & de Kadt, 1988), while there has been a public and political awakening to environmental problems (UNEP, 1987a, 1988, 1989, 1990). Aside from visible degradation, disease in exposed populations may be the first consequence that provokes public reaction. Despite this, adverse health effects of water resources development continue unabated (Service, 1989a,b).

Health officials in developing countries need to enter the development dialogue to place health on the national development agenda. The obvious arguments for entering the dialogue may be the impetus required to induce action at the higher levels of government. While it may appear that intersectoral dialogue in the international or multilateral arenas can be achieved, its success in practice and the impact on health are questioned by the studies documented in this book. The lack of dialogue and its inevitable outcome—lack of action—are predictable.

Those who understand health problems and, as the case in point, parasitic diseases, those who assess the results of intervention, and those who propose solutions move independently of those who decide and implement water resources development projects. Lack of foresight, the adverse consequences, and their late recognition are the fruit of this continuing lack of communication.

The global agenda on environmental issues now includes health (UNEP, 1986, 1990; WHO, 1992a; World Bank/International Monetary Fund, 1989). The international development finance community endorses environmental impact assessment through more integrated and health-conscious planning. Speedier change and more resolute commitment to health protection are needed. The present analysis is intended to promote the movement towards more integrated development activities, incorporating health protection and promotion measures along with economic advancement. Evidence concerning water-related parasitic diseases is reviewed in a broad policy context. Detailed information on other communicable diseases or health problems that may affect specific regions, such as dengue and Japanese encephalitis, may be found elsewhere. An exposition of associations between disease and environment is followed by an outline of the adverse health effects of dams and irrigation systems. The need is emphasized for continuing vigilance as water-related development proceeds on a massive scale. Small dams are presented as a special case in Chapter 4. The current status of technical measures for disease control is summarized in Chapter 5.

A policy critique (Chapter 6) is followed by proposed practical steps towards solutions. If the tools described are used, the best possible terms for health should be obtainable. Intersectoral negotiating strategies for health officials are considered in Chapter 8, and finally, the preparation of a health plan for a water resources project is outlined.