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PROJECT PERFORMANCE ASSESSMENT REPORT

ARAB REPUBLIC OF EGYPT

**NATIONAL SCHISTOSOMIASIS CONTROL PROJECT
(CREDIT NO. 2403-EGT)**

June 25, 2008

*Sector Evaluation Division
Independent Evaluation Group (World Bank)*

Currency Equivalents (annual averages)

Currency Unit = Egyptian Pounds (LE)

US\$1.00 = LE 3.30
(as of February 15, 1992)

US\$1.00 = LE 5.43
(as of April 22, 2008)

Abbreviations and Acronyms

AfDB	African Development Bank
AiDA	Accessible Information on Development Activities
CAS	Country Assistance Strategy
CPD	Central Procurement Department
DCA	Development Credit Agreement
EDCD	Endemic Diseases Control Department
GIS	Geographic Information System
GoE	Government of Egypt
HRSP	Health Reform Sector Project
IBRD	International Bank for Reconstruction and Development
ICR	Implementation Completion Report
IDA	International Development Association
IEG	Independent Evaluation Group
IEGWB	Independent Evaluation Group (World Bank)
LE	Egyptian Pound
MoH	Ministry of Health (until 1996)
MoHP	Ministry of Health and Population (from 1996 to present)
NSCP	National Schistosomiasis Control Programme
PEMA	Centre for Project Evaluation and Macroeconomic Analysis
PPAR	Project Performance Assessment Report
QAG	Quality Assurance Group
R&D	Research and development
SDR	Special Drawing Rights
SoE	Statement of Expenditure
SRP	Schistosomiasis Research Project
USAID	United States Agency for International Development
WHO	World Health Organization

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To prepare a Project Performance Assessment Report (PPAR), IEGWB staff examine project files and other documents, interview operational staff, visit the borrowing country to discuss the operation with the government, and other in-country stakeholders, and interview Bank staff and other donor agency staff both at headquarters and in local offices as appropriate.

Each PPAR is subject to internal IEGWB peer review, Panel review, and management approval. Once cleared internally, the PPAR is commented on by the responsible Bank department. IEGWB incorporates the comments as relevant. The completed PPAR is then sent to the borrower for review; the borrowers' comments are attached to the document that is sent to the Bank's Board of Executive Directors. After an assessment report has been sent to the Board, it is disclosed to the public.

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Bank Performance: The extent to which services provided by the Bank ensured quality at entry of the operation and supported effective implementation through appropriate supervision (including ensuring adequate transition arrangements for regular operation of supported activities after loan/credit closing, toward the achievement of development outcomes. The rating has two dimensions: quality at entry and quality of supervision. *Possible ratings for Bank Performance:* Highly Satisfactory, Satisfactory, Moderately Satisfactory, Moderately Unsatisfactory, Unsatisfactory, Highly Unsatisfactory.

Borrower Performance: The extent to which the borrower (including the government and implementing agency or agencies) ensured quality of preparation and implementation, and complied with covenants and agreements, toward the achievement of development outcomes. The rating has two dimensions: government performance and implementing agency(ies) performance. *Possible ratings for Borrower Performance:* Highly Satisfactory, Satisfactory, Moderately Satisfactory, Moderately Unsatisfactory, Unsatisfactory, Highly Unsatisfactory.

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This report was prepared by Denise Vaillancourt, who assessed the project in November 2007. Marie-Jeanne Ndiaye provided administrative support and helped design the graphics.

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PRINCIPAL RATINGS

National Schistosomiasis Control Project

	<i>ICR*</i>	<i>ICR Review*</i>	<i>PPAR</i>
Outcome	Satisfactory	Satisfactory	Moderately Satisfactory
Sustainability ^a	Likely	Likely	-
Risks to Development Outcome ^a	-	-	Substantial
Institutional Development Impact ^b	Modest	Modest	-
Bank Performance	Satisfactory	Satisfactory	Moderately Satisfactory
Borrower Performance	Satisfactory	Satisfactory	Moderately Unsatisfactory

* The Implementation Completion Report (ICR) is a self-evaluation by the responsible Bank department. The ICR Review is an intermediate IEGWB product that seeks to independently verify the findings of the ICR.

^a As of July 1, 2006, Sustainability has been replaced by Risk to Development Outcome. As the scales are different, the ratings are not directly comparable.

^b As of July 1, 2006, Institutional Development Impact is assessed as part of the Outcome rating.

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PREFACE

This is the Project Performance Assessment Report (PPAR) for the Egypt National Schistosomiasis project, financed through IDA Credit No. 2403 in the amount of US\$26.8 million (19.6 million SDR), with planned cofinancing and government counterpart contribution in the respective amounts of US\$10.4 million and US\$6.0 million. The credit was approved on June 25, 1992, became effective on June 15, 1993, and was 83 percent disbursed (with 3.4 million SDR cancelled) when it closed on September 30, 2002, three years and three months after the originally planned closing date.

The findings of this assessment are based on an Independent Evaluation Group (IEG) mission to the Arab Republic of Egypt carried out in November 2007. The mission met in Cairo with authorities and staff of the Ministry of Health and Population and selected development partners. The mission also undertook field visits in the Governorates of Alexandria, Menoufia, Menya, and Qena where it met with health authorities, services providers and stakeholders and assessed inputs and activities supported by the Bank. Key sources of evidence consulted include: (a) World Bank project files; (b) project-related reporting and evaluation; and (c) epidemiological data, studies, surveys and research on health, much of it generated in Egypt.

This PPAR contributes to a forthcoming evaluation by IEG of the World Bank's support to health, nutrition and population (HNP) sector outcomes over the past decade (1997 – 2007). It is one of a package of three assessments of the Bank's HNP sector support to the Arab Republic of Egypt, the other two comprising: (a) a PPAR on the Egypt Population Project (Credit 2830-EGT); and (b) a case study on the development effectiveness of the Bank's lending and non-lending support to HNP sectors. While the National Schistosomiasis Control project was designed prior to the decade under review, its implementation period largely coincides with this period, during a time when the Bank's HNP support to Egypt was transitioning from single-purpose programs to health sector reform. For this reason, more material has been presented in this "enhanced" PPAR than is the IEG standard.

This report draws on the technical inputs of Alejandra Gonzalez, mission member and author of the above-cited Egypt case study. The IEG team gratefully acknowledges the contributions of Ms. Nadia El Gohary and Ms. Ingy Halim of the Bank's office in Cairo, who provided logistical support to the IEG mission and assisted in the translation of key data. The IEG team also gratefully acknowledges all those who made time for interviews and provided documents and information.

Following standard IEG procedures, copies of the draft PPAR were sent to the relevant government officials and agencies for their review and feedback. Their comments are presented in Annex I.

SUMMARY

Schistosomiasis has been a major public health problem in Egypt for thousands of years. It is caused by microscopic flatworms that live in snail-infested fresh water. When people wade, swim or bathe in contaminated water, the flatworms penetrate the skin, travel in the blood and cause anemia, diarrhea, internal bleeding, and organ damage, which can lead to cancer and death. Water becomes contaminated by worm eggs when infected people urinate or defecate in it. Egyptians are highly susceptible to the disease given that the great majority of the population is concentrated in the Nile Delta and Nile Valley and around canals therein. Since 1922, after the discovery of the role of snails in the transmission of the disease, Egypt has undertaken activities to control schistosomiasis with strong government commitment. Over the years the technologies for fighting the disease (drugs for treatment, and molluscicides for snail control) became increasingly effective with fewer and less severe side effects. At the time of project design, the National Schistosomiasis Control Programme (NSCP) was found not to be fully exploiting the new technologies for optimum program effectiveness.

The *objectives* of the National Schistosomiasis Control Project (the project) were to "... (a) expand the coverage and improve the operation of the NSCP; and (b) strengthen the capacity of the Endemic Diseases Control Department (EDCD) to design, evaluate and adjust the national strategy for the control of schistosomiasis." Key performance indicators included: the extension of the program to five governorates (and 17 million people) of the Eastern and Western areas of the Nile Delta, thereby increasing coverage from about 75 percent to 100 percent of the population; the reduction of the prevalence of infection from more than 35 percent of the population to less than 10 percent; the adoption of modern diagnostic technologies for improved control of schistosomiasis in 21 governorates in Middle and Upper Egypt and the Suez Canal region, where the program had already been operating, that would result in more sensitive and less costly screening and more cost-effective control of transmission; the reduction of control strategy costs by about 15 percent; and the achievement of the financial sustainability of NSCP.

Assistance was channeled through *two components*. The *NSCP component* was designed to extend program activities to the yet uncovered governorates in the Nile Delta and to consolidate and modernize existing control activities, by providing laboratory equipment and supplies, drugs, molluscicides, vehicles, technical assistance and training. The *EDCD component* included technical assistance, training, and office equipment to strengthen management evaluation capacity of the EDCCD, and the financing of evaluation studies to support the application and fine-tuning of technologies and strategies in the Egyptian operational context.

Program expansion and modernization. With the support of the project and the parallel financing of the African Development Bank (AfDB), the NSCP achieved national coverage with its successful expansion to five governorates of the Delta and to newly reclaimed lands, developed through irrigation projects to attract migrants from other parts of Egypt. New screening technologies for detecting the two strains of schistosomiasis in Egypt (urinary and intestinal) that are rapid, simple, less expensive and more sensitive than technologies previously used were adopted by the NSCP and implemented nationwide. However, surveillance strategies were not refined and are not uniformly implemented throughout the country. The project supported the implementation of the mass treatment (chemotherapy) strategy, under which all villagers and school children in high prevalence areas were treated with the drug, Praziquantel, a change from the previous strategy of treating only those found to be infected. This new strategy not only reduces the intensity of the infection and morbidity. It also reduces further the contamination of canals and other water sources by infected humans. With project support the

NSCP also adopted and implemented a new snail control strategy, under which canals and drains are surveyed less frequently and molluscicide is applied in a more focused area. Furthermore, snail control is now used as a supportive strategy to mass chemotherapy.

Program costs have been reduced considerably. The price of Praziquantel (for treatment) decreased by 75 percent between 1995 and 2001 and the doses administered declined from 9.9 million in 1997 to 0.7 million in 2006. Between 1995 and 2001 the price of Niclosamide (for snail control) decreased by 76 percent and the annual consumption decreased from 85 tons to 10.2 tons. The Government of Egypt now finances the entire cost of program implementation, but financing does not cover operations research, which has not been institutionalized.

Program capacity building. The project, together with other relevant support provided by USAID, failed to develop within EDCD/MoH a capacity and discipline for carrying out evaluation and other operationally relevant studies and for systematically using the results to adjust program strategy. While research and development studies supported by USAID did inform to some extent refinements in the control strategy, the complementary evaluation studies planned under the project were not carried out. As a consequence the evidence base is lacking to fine-tune various elements of the strategy for improved efficiency and effectiveness (e.g., frequency of screening and treatment; cut-off values for snail control; timeframe for follow-up treatment, and innovations for multi-sectoral behavior change interventions, among others). Technical capacity for policy and strategy formulation and for program design, planning and evaluation remains insufficient and overly centralized. Government's reluctance to use technical assistance and consulting services programmed under the project resulted in the neglect of key areas for strengthening, including: capacity of middle-management; systems for budgeting and accounting; pedagogical supervision and technical backstopping of front-line health workers; and quality control and validation of program data. There is evidence that capacity of health workers in primary health care facilities falls short of program exigencies, in terms of skills and availability of staff.

Outcomes and attribution. The prevalence of *S. mansoni* (the cause of intestinal schistosomiasis) among the general population in the Delta declined from a level of 14.8 percent in 1993 (the year of project effectiveness) to 2.7 percent in 2002 (the year of project closing) and continued to decline in the ensuing years, reaching a level of 1.5 percent in 2006. Likewise, the prevalence of *S. haematobium* (the cause of urinary schistosomiasis) among the general population in Middle and Upper Egypt declined from a level of 6.6 percent in 1993 to 1.9 percent in 2002, and continued to decline thereafter, reaching a level of 1.2 percent in 2006. Project support to the expansion, modernization and strengthening of NSCP activities is assessed to have directly contributed to declines in prevalence because investments enabled NSCP to implement nationwide treatment and prevention interventions, applying the latest technologies, that are known to be effective in controlling schistosomiasis. The Bank's support made up one third of all external aid for the NSCP disbursed during the project period. Public health research suggests that investments in water supply, sanitation and drainage made before, during and after the time of project implementation are likely to have contributed to declines in prevalence, but the impact of these investments on schistosomiasis in Egypt has not been evaluated.

The outcome of the project is rated *moderately satisfactory* overall. The outcome of the first objective is *satisfactory*, based on its *substantial* relevance, efficacy and efficiency. The outcome of the second objective is *unsatisfactory*, based on its *negligible* efficacy and *modest* relevance and efficiency. Risk to development outcome is rated as *substantial*. The Bank's performance was *moderately satisfactory*; and the Borrower's performance was *moderately unsatisfactory*.

Lessons

- Project and program experience reveal that a single-purpose public health intervention, such as the schistosomiasis program, is amenable to success because its purpose is clear, its goals and objectives explicit and easily quantifiable, and its interventions well defined.
- Nevertheless, such a program, even when it incorporates state-of-the-art knowledge and technologies, is unlikely to be fully cost-effective if its strategies are not (i) well-adapted to the country context and (ii) periodically assessed and revised to take into account program progress, new knowledge and technologies and evolutions in the country context.
- The design of rigorous, technically sound evaluation studies, specifically tailored to inform the adjustment of intervention strategies for improved performance and outcome, is a necessary, but insufficient condition for improved strategic management and cost-effectiveness. Such studies are unlikely to be carried out and effectively used in the absence of other essential conditions, such as: the conviction of managers and decision-makers of the value added of such studies; the willingness to finance them; the capacity to undertake (or commission) them; and well-defined processes and incentives to exploit study results for decision-making.

Challenges

Six years have passed since project closing. While the lessons remain relevant, new developments pose additional challenges to their application. The full support and continued implementation of schistosomiasis activities will need to be ensured in the new context and incentive structure embedded in Egypt's Health Sector Reform Program. The development by MoHP/EDCD with WHO assistance of a proposal in 2007, which changes the national schistosomiasis strategy from control to eradication, requires new investments, intensified efforts and further adjustments to program strategy and organization. While incremental financing is needed to support this more aggressive strategy, (i) partners that have traditionally invested in the NSCP (USAID, AfDB and the World Bank) have reoriented their support around Health Sector Reform, and (ii) as of 1999 Egypt achieved lower middle-income status and graduated from IDA to IBRD lending. The costing and financing of this new strategy, as well as its appropriate integration into health reform efforts, will be critical to its success.

Vinod Thomas
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1. BACKGROUND AND CONTEXT

SCHISTOSOMIASIS IN EGYPT

1.1 Schistosomiasis, also known as bilharzia, is endemic in 74 developing countries, infecting more than 200 million people in rural and peri-urban areas worldwide.¹ It has been a major public health problem in Egypt for thousands of years,² and is Egypt's leading parasitic infection.

1.2 **Characteristics.** The major forms of human schistosomiasis are caused by species of water-born flatworm, or blood flukes, called schistosomes, two of which are found in Egypt. *Schistosoma mansoni* (*S. mansoni*), prevalent in Lower Egypt (the Delta area), causes intestinal schistosomiasis; and *S. haematobium*, prevalent in Middle and Upper Egypt, causes urinary schistosomiasis. Water becomes contaminated by worm eggs when infected people urinate or defecate in it. Humans become infected through contact with infested surface water at which time schistosomes enter the body. This disease particularly affects people engaged in agriculture and fishing, as well as the poor, who rely on infected water sources for bathing and domestic chores. Rural to urban migration in Egypt is introducing the disease into peri-urban areas and population movements are spreading it to other areas. The opening up of newly reclaimed lands through ambitious irrigation initiatives to render desert lands arable is attracting migrants from other parts of Egypt, some of whom are infected. The health and economic effects of schistosomiasis are considerable. Severe urinary schistosomiasis causes serious kidney damage; and severe intestinal schistosomiasis can lead to serious liver disease, spleen enlargement, vomiting of blood and, ultimately, death. Severe schistosomiasis also leads to increased rates of cancer, particularly of the bladder. Morbidity caused by heavy schistosome infection impairs the physical and mental health of children (negatively impacting their performance in school), and undermines adults' ability to earn income and contribute to economic development (Hotez et al., 2007).

1.3 **Diagnosis and Treatment.** Urinary schistosomiasis is diagnosed by methods to detect blood in the urine (a filtration technique, visual inspection of urine specimens, or the use of chemical reagent strips to detect microscopic blood). The eggs of intestinal schistosomiasis can be detected in fecal specimens through a technique using cellophane soaked in glycerine, or between glass slides. Available since 1988, Praziquantel is the only available drug treatment, which is effective against all forms of schistosomiasis, with few, transient side effects and very low cost (an average treatment costs about US\$0.20 – 0.30). Even though re-infection may occur after treatment, the risk of developing severely diseased organs is dramatically diminished with treatment and even reversed in young children.

¹ Source (unless otherwise indicated): World Health Organization Fact Sheet No. 115 on Schistosomiasis, Revised July 2007

² Recent research has identified schistosomiasis in Egyptian mummies, providing evidence of the presence of this disease in ancient Egypt 5000 years ago (David, 2000).

1.4 **Cost-Effective Interventions.**³ A review of evidence by world experts identifies a cost-effective package of interventions for schistosomiasis control, comprised of: (a) periodic screening and (mass or selective) treatment of high-risk groups (e.g., school children and populations living in high-infection areas); (b) improved sanitation to reduce water contamination (but to be effective sanitation infrastructure and services should cover a high percentage of the population); (c) health education promoting the use of latrines and hygienic behavior, a cheaper and faster way to reduce water contamination; and (d) in specific epidemiological conditions, the environmental or chemical control of snails for reducing transmission.

GOVERNMENT'S RESPONSE

1.5 **General Health Sector Goals and Strategies.** Egypt's second Five-Year Plan, covering the period 1987-1992, sought to improve access to health services for all segments of the population, through: (i) provision of preventive care services or the early detection and treatment of infectious diseases (schistosomiasis being a priority disease); (ii) provision of basic health care services; (iii) provision of curative services; and (iv) local production of medicines.

1.6 **Schistosomiasis Control** is recognized as a high priority by political leaders, the general public and health workers.⁴ Annex C-1 provides a timeline, which documents landmarks in Egypt's long history in its fight against the disease, briefly summarized in this section.

1.7 In 1922, soon after the discovery of the role of snails in the transmission of the disease, Egypt launched a national attack on schistosomiasis, consisting primarily of snail control, with some treatment of heavily infected individuals with drugs that produced very serious side-effects. Health education efforts launched in the 1930s to reduce human contact with surface water failed because of many Egyptians' reliance on local water points for their survival. In the 1960s new, more effective technologies appeared on the market: (a) Niclosamide, an environmentally safe molluscicide; and (b) two new drugs that achieved a higher cure rate and produced few side-effects than older compounds, but still had to be administered over a period of week. With the introduction of Praziquantel in the late 1970s, Egypt began to combine the treatment of infected persons with snail control. The thrust of control activities shifted gradually in the years leading to project design from a strategy of halting transmission through snail control and reduction in eggs deposited in the water by human victims to one of treatment of confirmed cases.

³ Hotez et al., 2007.

⁴ The high profile of the disease in Egypt and strong national commitment to its control were spontaneously raised by many informants (spanning government officials, local officials, MoH staff and development partners). The First Lady is noted by several to be highly committed to its eradication. It is also cited as a priority disease under the national health strategy for prevention and early treatment. Much of the literature reviewed for this PPAR notes that Egypt has been a world leader in the fight of schistosomiasis, since its discovery in Egypt, and there is strong national pride associated with the performance and innovation of this program and Egypt's contribution to international experience and efforts.

1.8 In 1976 the National Schistosomiasis Control Programme (NSCP) was established within the Ministry of Health (MoH), assuming responsibility for overseeing all schistosomiasis projects in Egypt. In 1992 at the time of project appraisal, NSCP's activities, carried out in Middle and Upper Egypt, consisted of the routine screening of high-risk groups, the treatment of those infected,⁵ health education and snail control.⁶ A number of major shortcomings in program operations undermined its effectiveness (Table 1.1). In addition, its coverage was limited: the five governorates located in the Eastern and Western areas of the Nile Delta had not yet been included in the NSCP.⁷

Table 1.1: Program Activities and Shortcomings at the Time of Project Preparation

Activity	Shortcomings
Semi-annual examination of primary school children and treatment with Praziquantel of those found to be infected	In many areas only one screening was being carried out.
Examination of outpatients at rural health facilities with symptoms of infection and treatment with Praziquantel of those found to be infected.	No major shortcomings were noted for this activity.
Examination of ten percent of households in the service area of selected facilities and treatment with Praziquantel of those found to be infected.	This procedure was devised to provide a basis for monitoring infection rates in the community, but problems in implementing the sampling method undermined the survey's statistical validity. The monthly screening of 10 percent of the community was not being carried out in most communities.
Control of snails through (a) surveillance of snails in all canals and drains four times a year and (b) spraying (mollusciciding) in communities in which the prevalence of infection is greater than 20 percent or in which snail surveillance demonstrates that infected snails are present.	Formal reporting procedures for this effort were weak, making it difficult to assess coverage. Moreover, the dipping technique for collecting snail samples had a small probability of identifying snails. Shortages of molluscicides prevented full implementation of the strategy.
Health education (television transmission of 12 messages developed in 1988).	Community outreach was limited.

Source: World Bank, 1992

SUPPORT OF OTHER PARTNERS

1.9 At the time of project design the African Development Bank (AfDB) had supported schistosomiasis control activities in Egypt through a series of three credits, approved in 1980, 1982 and 1990, respectively, and totaling some US\$27 million. In 1988 USAID provided Egypt with a US\$39.7 million grant for a Schistosomiasis Research Project (SRP), which supported the conduct of research and development (R&D) studies and research capacity building (see also Box 2-2). Annex D provides more detail on donor support to health in general and to schistosomiasis in particular.

1.10 In addition to direct support to MoH for implementing its Schistosomiasis Control Program, Egypt was investing substantial sums (using both domestic and external resources) in water supply and sanitation, drainage and irrigation, one of the four proven and complementary strategies for the control of schistosomiasis (para. 1.4). Total support

⁵ Selective population chemotherapy (SPC) involved the treatment of patients infected with schistosomiasis, as opposed to the treatment of the general population.

⁶ Selective mollusciciding implied the spreading of a chemical to kill snails in water bodies where the prevalence of schistosomiasis was greater than 20 percent.

⁷ Limited interventions were carried out in this area, but had not significantly reduced prevalence. They included: care for victims of schistosomiasis by primary health care facilities, annual screening of school children in grades one and six, and examination and treatment of symptomatic outpatients. Snail control was limited to the checking of major canals and drains and the application of copper sulfate where infected snails were found; and modern molluscicides were generally not available. A third AfDB credit was approved in 1989 to support control activities in the Nile Delta, but it did not start disbursing until 1992.

for water projects has not been compiled for this report, and IEG could find no evidence that the impact of these investments on schistosomiasis prevalence has been evaluated.

WORLD BANK SUPPORT

1.11 **HNP Sector.** IDA financed two population projects (approved in 1973 and 1978), whose objectives were to expand and improve family planning services, including the strengthening of health infrastructure and MoH's capacity. These projects were judged at completion not to have achieved their objectives, the second one cancelled after 7 years of implementation. Lessons emanating from these two projects pointed to key conditions for project success, which had been absent during these projects' design and implementation: clearly stated objectives; the involvement of the Borrower and key stakeholders in design; the firm commitment of the Borrower and its implementers; sufficient implementation capacity; clearly defined procedures and processes. The National Schistosomiasis Control Project was the Bank's third support to Egypt's MoH, but the first to invest in a standalone disease program. The project was identified in 1987, a year after the second population project was cancelled because of serious implementation difficulties and low Government commitment. The project concept was rooted in the results of an international evaluation of Egypt's schistosomiasis program undertaken in 1985, which called for program expansion to cover the Delta region. The Bank, having financed schistosomiasis control through irrigation projects (para 1.12), was ready to continue and deepen its assistance through a health project.

1.12 **Water, Drainage, Irrigation Sector.**⁸ The Bank has had a long history of support to schistosomiasis control through its financing of many water supply, drainage and irrigation projects. Prior to project effectiveness nine Bank-financed water projects had been approved, implemented and closed, of which seven focused on drainage and irrigation and two on water supply. Total Bank support to these projects amounted to US\$211 million in IDA funding and an additional US\$150 million in IBRD financing. While all supported activities that would eliminate breeding habitats for schistosomiasis, only four included specific components and/or activities for snail control: (a) Upper Egypt Drainage Project (1973-1981); (b) Upper Egypt Drainage Project (1976 – 1985); (c) Nile Delta Drainage Project (1977 – 1985); and (d) New Land Development Project (1980-1990). An additional five water, drainage and/or irrigation projects (supported by US\$135.6 million in IDA funding and US\$180 million in IBRD funding) were under implementation at the time of the design of the National Schistosomiasis Control Project. Implementation completion reports (ICRs) on the three projects which closed between 1998 and the present indicate two with satisfactory outcomes and one with a moderately satisfactory outcome.⁹ None of these projects had specific schistosomiasis components,

⁸ Annex C, Table C-2 itemizes all water, drainage and irrigation projects that were supported before, during and after the National Schistosomiasis Project, highlighting those that included specific support for the control of that disease.

⁹ According to the ICRs prepared on these projects, the Second Pumping Stations Rehabilitation Project (approved in 1990 and closed in 1998) and the National Drainage Project (approved in 1991 and closed in 2000) both had satisfactory outcomes, and the Irrigation Improvement Project (approved in 1994 and closed in 2006) had a moderately satisfactory outcome. IEG's ICR Reviews on the two latter projects corroborated these ratings.

and only one of the implementation completion reports (ICRs) mentions any benefits to schistosomiasis control efforts.¹⁰

2. OBJECTIVES AND DESIGN

2.1 The National Schistosomiasis Control Project was financed through an IDA credit of US\$26.8 million equivalent,¹¹ approved on June 25, 1992 and declared effective a year later on June 15, 1993, with planned cofinancing and Government counterpart contribution in the respective amounts of US\$10.4 million and US\$6.0 million. Both the Netherlands and Denmark had expressed an interest in cofinancing this project. At the time of negotiations, when cofinancing had still not been confirmed, the Bank and the GoE agreed to move ahead with the project on the basis of IDA financing, while continuing to pursue parallel financing.

2.2 The **objectives** of the Project were to "... (a) expand the coverage and improve the operation of the NSCP, and (b) strengthen the capacity of the EDCD to design, evaluate and adjust the national control strategy for the control of schistosomiasis."¹² Key performance indicators are shown in Box 2-1.

Box 2-1: Key Performance Indicators <u>a/</u>
<ul style="list-style-type: none"> • Extension of the program to five governorates (and 17 million people) of the Eastern and Western areas of the Nile Delta, thus achieving national coverage; • Reduction of the prevalence of infection from more than 35 to less than 10 percent of the population; • Adoption and adaption of modern technologies for more sensitive and less costly screening and more cost-effective control of transmission, specifically the refinement of: <ul style="list-style-type: none"> ○ screening technologies and surveillance strategies; ○ treatment strategies; ○ and snail control strategies; • Decentralization of program management; • Reduction of control strategy costs by about 15 percent; and • Achievement of the financial sustainability of the NSCP. <p><u>a/</u> These targets and indicators were specified in various parts of the design document, but not identified as key performance indicators. IEG cites these indicators as key for evaluating project performance. Chapter 4 on Monitoring and Evaluation presents additional project monitoring indicators included in the design document.</p>
<i>Source: World Bank, 1992</i>

2.3 The project's support was organized around two **components** presented in Box 2-2.¹³ The project's research and studies component (B.2) was carefully designed to complement research supported in the USAID-financed Schistosomiasis Research Project (Box 2-3).

¹⁰ The ICR on the National Drainage Project notes that the project "...has effectively contributed to the relative improvement of human health restricting the sites of propagation and infection of schistosomiasis by eliminating water logging, which (poses) health hazards to rural populations."

¹¹ The US\$ equivalent of 19.6 million Special Drawing Rights (SDRs) at the time of approval. US\$ values provided in this report are the equivalents of SDRs or other currencies.

¹² Development Credit Agreement between the Arab Republic of Egypt and IDA, July 1992.

¹³ A more detailed inventory of planned support is presented in Annex D. Components were not substantially revised during implementation.

Box 2-2: National Schistosomiasis Control Project Components, as Appraised a/**Part A: National Schistosomiasis Control Program (NSCP)****A.1: Expansion of the Program into the Nile Delta (US\$25.5 million, 59 percent of total cost)**

Provision of laboratory supplies and equipment, vehicles, drugs and molluscicides, technical assistance and training to 871 primary health care facilities in five governorates to enable them to carry out the full range of schistosomiasis program activities.

A.2: Consolidation and Modernization of Existing Control Activities (US\$17.0 million, 39 percent of total cost)

Provision of equipment, vehicles, supplies, drugs, technical assistance and training to the 21 governorates in Middle and Upper Egypt and the Suez Canal region to enable the adoption of modern diagnostic, treatment and control activities.

Part B: Endemic Diseases Control Department (EDCD): Strategic Planning and Program Modernization (US\$0.8 million, 2 percent of total cost)**B.1: Strengthening EDCD Management Capacity**

Provision of training and technical assistance to facilitate the development of EDCD capacities in modern methods of policy analysis, strategic program management and financial management and budgeting and the further decentralization of program management.

B.2: Research and Studies to Apply New Technologies

The support of operations research, evaluations, surveys and other studies to introduce more efficient, decentralized and cost-effective management methods for the control of schistosomiasis. These studies were designed to complement the scientific research/R&D supported under the USAID-financed SRP (Box 2-3).

a/ A more detailed inventory of planned support is presented in Annex D. Components were not substantially revised during implementation.

Source: World Bank, 1992

2.4 Management and Implementation Arrangements. Project management and implementation responsibilities were assigned to the EDCD, MoH. Having implemented already six externally financed projects,¹⁴ the Directorate of Project Administration of the EDCD was considered by the Bank to be experienced in managing procurement and financial reporting, satisfying the guidelines of both the AfDB and the World Bank. The Director of Project Administration was thus given the responsibility to coordinate the work of implementing governorates, monitor progress, oversee project accounts and liaise with IDA.

2.5 The EDCD was to implement project activities as a part of its normal activities. Its routine responsibilities included: the setting of policy, preparation of plans, staff training, procurement and distribution of drugs and molluscicides and evaluation of field activities. At the time of project approval, it had a staff of 65, including seven medical doctors, 12 agricultural engineers (responsible for surveillance and control of snails), and some 40 support staff. The health departments of Egypt's 26 governorates and 170 districts were to implement the program through the primary health care system. Each of the 26 governorates had an executive director of endemic disease control, who reported to an under secretary or a director general of health assigned to each governorate, and was responsible for the day-to-day administration of the schistosomiasis control program, particularly the oversight of efforts to control the snail population. The NSCP and the EDCD were found by the Bank to be competent, motivated and effective, and thus

¹⁴ These projects were financed by the Government of Germany, the African Development Bank and IDA (the latter through water drainage project components).

capable of implementing the project. In support of project implementation the EDCD agreed at negotiations that it would prepare each year a strategic operational plan and a budget, suggesting the allocation of resources and assessing the program problems and results. To this end, two annual planning seminars were envisaged. The *first* would bring together project managers and their deputies from the governorates of the Delta region (concerned mainly w/ *S. mansoni*, attack phase), MoH staff, facilitators and external consultants. The *second* would be held for Upper and Middle Egypt (concerned mainly with *S. haematobium*, maintenance phase).

Box 2-3: USAID-Financed Schistosomiasis Research Project (SRP) – A Complement to Bank-Financed Evaluation Studies

In 1988 the Schistosomiasis Research Project (SRP) was launched with a USAID grant of US\$39.7 million and a US\$5.3 million contribution of Government (in cash and in kind). This project, which was implemented over 12 years, supported six “research and development” components: (1) *vaccine development*: to develop at least two candidate vaccines ready for testing; (2) *immuno-diagnosis*: to develop new and sensitive immunodiagnostic tests to identify infected individuals and to evaluate ultrasound as a means of measuring morbidity; (3) *chemotherapy*: to develop a pediatric formulation of Praziquantel, to improve treatment regimes and to establish a mechanism to monitor for drug resistance; (4) *epidemiology*: to develop an effective database for measuring morbidity and standards for measuring the success of chemotherapy and the control programme, and to consider GIS as a management tool; (5) *social and economic research*: to develop methodologies to modify human behavior and improve health education; and (6) *operations research* to improve delivery systems and understanding of transmission with a view to improving snail control. The program closed in 2002.

Source: Khoby et al., 1998.

2.6 The procurement of drugs, pesticides, laboratory equipment and supplies was to be carried out by the Central Purchasing agency of the MoH, as it was considered by the Bank’s appraisal team to be both sufficiently experienced and capable. At the time of project preparation this agency was already purchasing goods and services worth about US\$150 annually; and its procedures complied with the requirements of development partners, including IDA and AfDB.

3. IMPLEMENTATION AND COSTS

3.1 The credit was approved on June 25, 1992 and became effective one year later on June 15, 1993 because of a delay in its ratification by Parliament. It was implemented over a period of nine years and three months, closing on September 30, 2002, more than three years after the initially scheduled closing date. Co-financing was not secured, but the project implementation period was not shortened, as had been envisaged with this scenario (para. 3.10). Over and above implementation delays (paras. 3.6-3.8), significant parallel financing (especially from USAID and AfDB) and lower than estimated costs of Praziquantel and Niclosamide were the main reasons why IDA financing was ultimately able to support the program for a period longer than four years. In December 1998 a two-year extension (to June 30, 2001) was granted to compensate for the delay in ratification and very slow procurement. In 2001 a second extension of the closing date (to June 30, 2002) was granted to allow additional time to improve the quality and effectiveness of health care services to control and treat the population in high-prevalence villages in the context of health sector reform and to consolidate and implement new strategies. An exceptional third extension (to September 30, 2002) was granted in April 2002 to allow

for the delivery and installation of computer hardware and software, estimated at US\$3.5 million. These extensions allowed for an unusually long implementation period, but were not used strategically to address and correct poor performance under the second objective and component (paras. 5.10 – 5.15).

PLANNED VERSUS ACTUAL COSTS AND FINANCING

3.2 The total actual project cost was US\$24.9 million or 58 percent of the appraisal estimate (Table 3.1). The actual costs of program expansion to the Nile Delta and of the modernization and rehabilitation of existing control activities fell far short of original estimates (at 62 and 48 percent, respectively) for reasons provided in paragraphs 3.1 and 3.3. The actual costs of program management capacity building are equal to initial estimates (Table 3.1), but the pattern of actual expenditures was different than those initially envisaged (para. 3.5). Of the original IDA credit amount of 19.6 SDRs, 83 percent (16.2 SDRs) was disbursed and the remaining amount was cancelled.¹⁵ The actual use of the credit by expenditure category closely reflected initial allocations for goods (equipment, drugs and pesticides),¹⁶ but fell far short of allocations for consultants' services and training.¹⁷ Counterpart funding provided by government amounted to US\$3.1 million, about half of the planned amount of US\$6.0 million, but satisfied government's commitment in terms of its (14 percent) share of total project cost (Annex D, Table D-2). Cofinancing anticipated during project appraisal did not materialize, but significant parallel financing was provided by others, especially USAID and the AfDB.

3.3 Significantly less was spent under the project on drugs and pesticides than was initially anticipated. This was due to significant cost savings achieved for these two commodities (para. 5.9), as well as the parallel financing of these commodities under the AfDB project (itemized in Annex E). Total drugs and pesticide costs under the project were initially estimated at US\$28.9 million. Actual drugs and pesticide costs amounted to US\$10.9 million. This reduced amount included the purchase, towards the end of the project, of drugs and pesticides (along with other laboratory consumables) to cover the needs for an additional two years of program implementation after the project's closure. IDA funding of Egypt's Schistosomiasis program during the project implementation period (1993-2002) is estimated to be about 39 percent of total external financing

¹⁵ Annex D, Table D-1. Because of the fluctuations in the US\$ during the life of the project, actual disbursements are estimated at US\$21.82 million, against the original equivalent value of US\$26.84 when the project was approved (World Bank Project database).

¹⁶ This is despite the fact that the prices of both Praziquantel and Niclosamide fell dramatically. The project procured quantities to support more years of implementation than initially anticipated.

¹⁷ World Bank supervision reports document a strong reluctance on the part of Government to use consultants' services. Interviews reveal that this reluctance is due to a lack of appreciation of the true value added of these services and a resistance to the use of a credit for "soft" products, especially with the availability of substantial amounts of grant financing for this type of expenditure.

provided to the MoH for schistosomiasis control.¹⁸ USAID and AfDB¹⁹ shares are estimated at 55 percent and 5 percent, respectively (Annex D, Table D-3).²⁰

Table 3.1: Planned versus Actual Costs by Component

(US\$ millions)

Component Costs (including contingencies)	Planned	Actual	Actual/Planned
Part A. National Schistosomiasis Control Program			
A.1: Expansion of the NSCP into the Nile Delta	25.5	15.9	62%
A.2: Consolidation and Modernization of Existing Control Activities	17.0	8.2	48%
Part B. EDCD: Strategic Planning and Program Modernization	0.8	0.8	100%
B.1: Strengthening EDCD Management Capacity	*	*	
B.2: Research and Studies to Apply New Technologies	*	*	
Total project costs	43.3	24.9	58%

Sources: Planned (World Bank, 1992); Actual (World Bank, 2003).

* Cost breakdown by subcomponents not available in the design document or in the final evaluation

PLANNED VERSUS ACTUAL INPUTS AND ACTIVITIES BY COMPONENT²¹

3.4 *Part A. of the project was implemented largely as planned, with significant savings achieved (paras. 3.1 and 3.3).* It provided critical commodities to the program and its implementers (governorate level authorities and primary health care facilities), in support of program expansion and modernization, most notably: 110 million tablets and 2.3 million suspension bottles of Praziquantel, 60 tons of Niclosamide, \$2.6 million worth of medical and laboratory equipment, vehicles, information technology equipment, and office equipment. These same commodities were also procured for the program during the life of the project with AfDB financing (see Annex E for itemization). The project also provided training²² for (a) all physicians and laboratory technicians on new screening techniques; (b) all health service providers (both those in-service and new recruits) on mass chemotherapy; (c) snail control staff on sampling, identification, canal mapping, and focal application of molluscicides; and (d) trainers to deliver training modules and ensure continued in-service and refresher training.

3.5 *On the other hand, Part B of the project was only partially implemented, even though the actual cost of this component approximated initial estimates.* This is because: (a) it supported the costs of project (and program) management for four more years than initially planned (10 versus 6); and (b) it procured computer hardware and

¹⁸ Excluding financing of water, drainage and irrigation projects.

¹⁹ The AfDB project was focused on three governorates in the Nile Delta: Kafr El Sheikh, Gharbiya and Menoufia.

²⁰ AfDB's share appears low because the year prior to project effectiveness it financed some US\$7 million worth of commodities and other program support, much of it to compensate for delays in the Bank's procurement processes that was slowing the supply of program commodities.

²¹ For more information, see (a) Annex E, which provides more detail on project activities and outputs by component; and (b) Chapter 5, which discusses project activities and outputs, and links them with project outcomes.

²² Data on training is partial. It is itemized in Annex E and also discussed in Chapter 5 which links training outputs with outcomes.

software for MoH's Disease Surveillance Unit. Very little of what was planned under *Part B.1 EDCD Management Capacity Building* was actually executed. Only very limited training was provided to EDCD staff in modern methods of policy analysis.²³ Consultancy services were not provided to strengthen the accounting and budgeting system or to develop and carry out studies of operational efficiency and program effectiveness. Middle management was not supported, as envisaged, with: management training, a consultancy to develop decision support systems based on program data, the provision of computer hardware and software, communication networks, E-mail and office equipment, or technical assistance for capacity building. The project did procure GIS software, computers, printers and software for improved surveillance. *Research and Studies to Apply New Technologies* envisaged under *Part B.2* of the project were designed to complement those planned under the USAID-financed SRP. But none were carried out with project support and only a few were picked up for support under the SRP (para 5.11). The refinement of strategies, envisaged with project support, occurred anyway, but without the benefit of a stronger evidence base that these studies and operational research would have generated.

3.6 **Procurement** was carried out by MoHP's Central Procurement Department (CPD) and encountered significant delays. CPD's performance was initially unsatisfactory, but gradually improved until it became satisfactory by the project's end. Delays in the preparation of technical specifications of procurement packages and in the submission of bid opening reports and bid evaluation reports were chronic concerns. The international testing of the project's two main commodities (Praziquantel and Niclosamide) also contributed to the slow pace of procurement. Procurement rules in Egypt were not fully in sync with Bank procurement guidelines and took time to reconcile. Between 1996 and 1999 five large procurement packages were cancelled by the Borrower after the bid evaluation process was completed, but was questioned by the Bank. Procurement is also reported to have been slower than planned in part because of procurement for the same commodities being carried out under the AfDB project, which had been ongoing for a few years before effectiveness of the Bank-financed project. AfDB procurement was in fact helpful in that it compensated for the slow start-up of the Bank-financed project, thus accelerating the availability of program commodities long before they would have become available under the Bank's credit.

3.7 **Financial Management.** EDCDs manual project procurement and disbursement tracking did not facilitate optimal monitoring practices. Nevertheless, all fiduciary requirements under the legal agreement were ultimately satisfied. In 1999 a qualified audit raised the issues of unreliable project accounting and filing systems. Efforts to resolve the issues identified in this report were ultimately successful, as evidenced by a clean audit report for the year ending June 30, 2001 and a final SoE review conducted in 2002, which documented no serious accountability issue (no ineligible, questioned or unsupported transactions). One audit report (for 1997) prepared by the Central Audit Organization (responsible for preparing all audits for Egypt's ministries) was unacceptable and the Bank required that the audit (and subsequent audits) be contracted

²³ IEG was unable to find in any project documentation (Bank's or Government's) an itemization or evaluation of such training.

to (an) independent auditor(s). Subsequent audits were satisfactory, albeit submitted late, in some cases.

3.8 Disbursements. The Special Account was opened in February 1995, one year and eight months after project effectiveness because of delays in obtaining necessary governmental approvals. This undermined the implementation of some project activities, while others were carried out, nonetheless, thanks to the funding provided by MoHP and other (external) sources. Above-mentioned delays in procurement and the utilization of AfDB funding for program commodities also contributed to the slow pace of disbursement in the early years of the project. During the first three years of project implementation less than US\$0.1 million was disbursed. The pace of implementation picked up considerably in 1997 when large procurements were completed. The cancellation of 3.4 million SDR is a result of cost savings attributable to dramatic decrease in the prices of Praziquantel and Niclosamide (para. 5.9).

3.9 Mid-Term Review (MTR). The MTR took place in March/April 1997 at a time when the program was just getting off the ground. Staffing and training had just been completed; and equipment, supplies and vehicles had been purchased and were being distributed to the various program implementers. During this review the Bank raised the issues of weak operational and budgetary planning, data management and reporting; and it recommended the training and recruitment of professional staff for data management and analysis, as well as for project financial management and reporting.

3.10 Risks and Risk Mitigation. Risks were identified during project design and were partially mitigated, as follows. The risk of an eventual resistance of the parasite to Praziquantel did not come to pass. The environmental risks of mollusciciding were effectively mitigated by reducing snail control activities in favor of mass chemotherapy (treatment of high-prevalence populations) and implementing snail control activities in a more geographically focused manner. The risk that the political urgency of controlling the disease might decrease as morbidity and mortality rates would fall did not come to pass. The Minister of Health and First Lady are both committed to the eradication of schistosomiasis and strongly support the initiation in 2007 of WHO and EDCD collaboration to this end. The risk that cofinancing would not materialize did come to pass, but it did not threaten, as had been anticipated, the ability of the Bank-financed project to cover more than four years of program support, necessary for ensuring reform implementation and institutionalization. AfDB parallel financing and cost savings allowed for a longer (ten-year) implementation period. Another mitigation strategy to address this risk was to establish a stronger link with the USAID-financed SRP. This strategy was not fully implemented, which ultimately had its negative consequences (para. 6.10). The design overlooked other critical risks, which came to pass: the risk that studies planned under the project would not be carried out and the consequence that strategy reform would not be fully evidence based; and the risk that the skills and implementation capacity of the program and network of primary health care facilities would not be sufficient to meet program needs, even after training.

4. MONITORING AND EVALUATION (M&E)

DESIGN

4.1 Despite the project's emphasis on evidence-based decision-making, the overall design of project M&E was weak. Because schistosomiasis control programs in general have clear objectives and well-established interventions, the design of M&E for the *first objective* was sound. The *first objective* was articulated around the program's performance (expansion of coverage and improvement in its operation) as a means for achieving the program's goal (the reduction of prevalence). Project monitoring indicators cited in the design document included: input measures (number of rural health units, number of rural health units not providing schistosomiasis control services, by duration of interruption in service, and by reason for interruption); process indicators (numbers of persons screened and numbers found positive reported separately for various categories²⁴) and outcome measures (intensity of infection for a representative sample of patients at each health facility, by parasite; and number of cases of hematemesis²⁵ admitted to hospitals). However, neither baselines on the above-cited indicators nor clear arrangements for data collection, analysis and reporting on these indicators were established. The design document did set a target to reduce prevalence from 35 to 10 percent of the population, but this was not included among the list of project indicators (although it was, indeed, measured).

4.2 Nevertheless, the design did provide for the monitoring of prevalence rates and emphasized the quality control of the statistical reports prepared by the primary health care facilities and vetted at the district and governorate levels. Quality was to be achieved through (a) computerized procedures for the detection and verification of inconsistencies in monthly reports; and (b) checks on the execution and quality of screening and treatment campaigns and the re-examination of random samples of urine and stool specimens by the primary health care physician or the chief laboratory technician at the district or governorate level. Analyses and decision-making based on data generated from the front-line services were envisaged to be carried out at the lowest possible level.

4.3 The *second objective* (which encompassed the undertaking of research studies for strategic decision- and policy-making) was not well articulated and its results chain was not well defined. Even the statement of the capacity building objective differs across the Bank's three key project documents: the legal agreement (officially binding document), the design document²⁶ and the Bank's internal supervision reporting system. The design document included no indicators for tracking progress in the achievement of this objective, for example: the undertaking of operations research, the recording and analysis of screening results, the extent to which decision-making is evidence-based, the quality

²⁴ School children screened during spring, and during fall, outpatients seen at rural health facilities, persons screened as part of program ten percent sample (active case finding in the community), a distinction between new infection and reinfection (for school children only), and type of parasite (*S. mansoni* or *S. haematobium*).

²⁵ The vomiting of blood.

²⁶ World Bank, 1992

and reliability of data, and the adequacy of the design and implementation of systems/processes to ensure the control of data quality. Capacity for program data collection and analysis was not assessed, nor was specific training developed to this end. The key performance indicators shown in Box 2-2 were not identified as such in the design document, but, rather, were pulled from various places in the design document by IEG to establish a more explicit evaluation framework for assessing performance.

IMPLEMENTATION

4.4 Implementation of project M&E was weak. The evaluation and operational studies planned under the project were not implemented (paras. 3.5 and 5.10-5.11). With project support the EDCD did strengthen its schistosomiasis surveillance system through which the screening of three population groups is undertaken: school children, a random sample of 10 percent of residents in villages, and patients visiting health facilities. However, a number of issues compromise the quality and reliability of these data (Bank internal reporting and PEMA evaluation). The capacity of primary health care facility-based health workers, who undertook the screening, recording and reporting of prevalence rates among these three groups, was lacking (both in terms of their skills and in terms of their availability). The frequency with which these three groups have been screened was not in adherence with program strategies.²⁷ The supervision of this work, envisaged to be undertaken by chief laboratory technicians at the district or governorate level or by primary health care physicians, was not undertaken regularly or with sufficient rigor, thus causing the neglect of two essential tasks envisaged under the project: the pedagogical support and technical backstopping of these staff, and data verification and quality control. Furthermore, despite the Bank's frequent reminders, the MoHP never validated the prevalence data from screening surveys by an independent evaluation.²⁸ Technical training was lacking in a number of areas, including: the design and implementation of epidemiological surveys, data analysis methods, reporting, and data validation and quality control.

UTILIZATION

4.5 Utilization of available data has been substantial, notwithstanding some issues of data quality (para. 4.4). Data on prevalence and snail infestation, generated at the primary health care facility level and aggregated at district and governorate levels, have enabled the NSCP and local-level program managers to identify areas of high prevalence, providing a trigger for the program to intervene with mass treatment and snail control, where warranted. Given that the project supported nationwide coverage of the NSCP, these data also served to track and finetune the project's (as well as the program's) performance. Supervision missions, aide-memoires and technical discussions between the Bank and the project, as well as Borrower's periodic reports on project progress all were grounded in prevalence data.

²⁷ Twice a year for school children, monthly samples to cover villages in catchment areas, and all patients of rural health facilities.

²⁸ Funds under the project had been allocated, but were not used for this purpose. The Bank did not have adequate funding under its supervision budget to carry out such an evaluation itself.

5. OUTPUTS AND OUTCOMES BY OBJECTIVE

OBJECTIVE #1: EXPAND THE COVERAGE AND IMPROVE THE OPERATION OF THE NSCP

5.1 The objective to expand the coverage and improve the operation of the NSCP was *substantially achieved*.

5.2 ***With the support of the project and other financiers (particularly the AfDB), the NSCP was successfully expanded to the five governorates of the Delta, thus covering an additional 17 million people and achieving full national coverage.*** Together with AfDB, the project provided these five governorates (and health facilities therein) with training and key commodities (microscopes, other laboratory equipment, diagnostic materials and supplies for screening; Praziquantel for treatment; Niclosamide for snail control; vehicles for outreach, surveillance and supervision; and computers at the governorate level) to carry out Program activities. Project support helped establish and render the NSCP fully functional in the Delta region.

5.3 ***The program was also expanded with project support to newly reclaimed lands which have been developed through irrigation projects and are attracting migrants from other parts of Egypt.*** The Al Salam project in Suez and Sinai brings Nile water to the Sinai desert irrigating some 620,000 feddans²⁹ and is expected to bring in three million migrants, primarily from the Delta region. The Toshka project near Aswan Lake in Upper Egypt supports the irrigation of some 540,000 feddans and is expected to attract some 6 million immigrants. Project investments in training, equipment, supplies, vehicles and commodities supported activities aimed at preventing schistosomiasis from being established in these newly reclaimed lands. Activities include: the systematic screening of incoming settlers, who may already be infected, the surveying of new canals for snails and the supervision of health staff.

5.4 ***The project supported the adoption of modern technologies for improved effectiveness in the control of schistosomiasis, and their application both in areas where the NSCP had already been operating (the 21 governorates in Middle and Upper Egypt and the Suez Canal region), and in areas where the Program was newly established (the Delta and newly reclaimed lands).*** Training and key commodities (replacement microscopes, upgraded laboratory equipment, diagnostic materials and supplies, Praziquantel, Niclosamide, computers and vehicles) were provided to the 21 governorates in Middle and Upper Egypt and the Suez Canal region, as well as to the new areas of program operation to support and facilitate the adoption and implementation of modern technologies as follows.

5.5 ***New screening technologies for detecting urinary schistosomiasis and intestinal schistosomiasis that are rapid, simple, less expensive and more sensitive than technologies previously used in Egypt were adopted and implemented by the NSCP with project support.*** Prior to the project, screening for urinary schistosomiasis (*S. haematobium*) and intestinal schistosomiasis (due to *S. mansoni*) involved the use of

²⁹ A feddan is a unit of area used in Egypt, Sudan and Syria equal to 1.038 acres or 4200 square metres.

cumbersome methods based on the sedimentation of schistosome eggs in conical flasks or test tubes. With program support: (a) urine dip sticks are now used to screen for urinary schistosomiasis, and positive samples are checked by urine sedimentation technique; and (b) the Kato technique is now used to screen for intestinal schistosomiasis. In addition to being simple, rapid and less expensive, these techniques are more sensitive thus allowing the measurement of the intensity of infection.

5.6 *Surveillance strategies have not changed essentially and are not uniformly implemented throughout the country. Project support to the strengthening of program surveillance has been inadequate relative to the needs.* At the project's outset the NSCP's strategy for screening/surveillance was three pronged: (a) the examination of outpatients who present themselves at primary health care facilities for any reason; (b) the monthly screening of a statistically valid rotating 10 percent sample of the entire population in governorates/districts to monitor prevalence in communities; and (c) semi-annual examination of all primary school children in all schools each year. Computers and software have been provided to central and governorate levels, but not to rural health units, whose staff are obliged to record and report sample testing data manually. The absence of guidelines and inadequate training have not ensured that the skills and capacities of governorate, district and health center staff are adequate for the screening and surveillance of a statistically valid rotating 10 percent sample of populations in their respective catchment areas. Despite project support to surveillance (mostly equipment), evidence compiled through field visits and evaluation reports suggests that surveillance is still not carried out in line with NSCP strategy. Patient interviews reveal that they are not routinely screened for schistosomiasis. Performance incentives stress quantity of tests administered, rather than the quality and accuracy of their results, and are reported by some field based respondents to be causing inflated reporting of the number of samples taken. Population screening is carried out only about once or twice annually and the statistical accuracy of data is still in question. Furthermore, the frequency with which school children are screened varies across the country.³⁰ Supervisions to check on the quality of sample testing of villages, school screenings and patient examinations are infrequent. Human and financial resources are inadequate relative to the requirements of current screening/surveillance strategies.

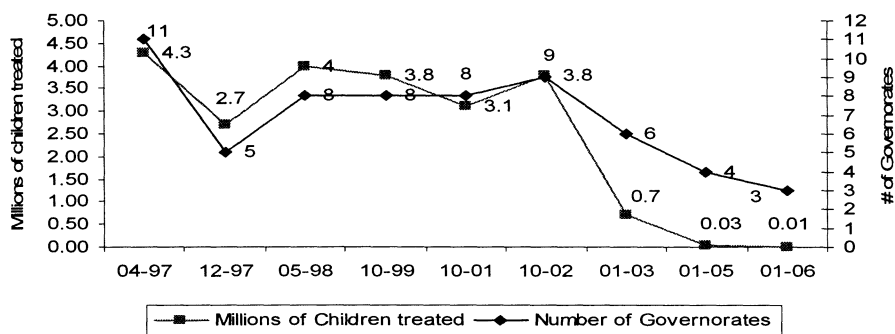
5.7 *The project supported the implementation of a new treatment strategy of mass treatment with Praziquantel of all villagers and school children in high prevalence areas, a change from the previous strategy of treating only those found to be infected. This new strategy not only reduces the intensity of the infection and morbidity. It also reduces further transmission resulting from the infection of canals and other water sources by infected humans.* Between 1997 and 2006, with project support,³¹ a total of 22.4 million school children attending schools with high prevalence in 11 governorates

³⁰ Operational research included in the project was envisaged to assess the frequencies with which optimal screening could be carried out for these different groups (exploring the possibility of decreasing the screening of school children from twice to once annually), but was never carried out (para. 5.11).

³¹ While the project closed in September 2002, it procured sufficient commodities to cover the needs of the NSCP for the two to three years after the closing and thus can be acknowledged for supporting mass chemotherapy activities through 2005.

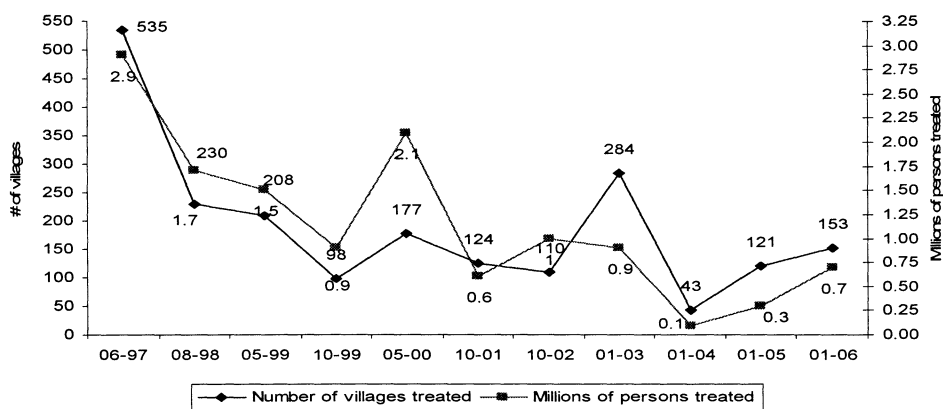
were treated (or retreated) with Praziquantel.³² Over time, as prevalence declined, both the number of governorates and the number of school children receiving mass chemotherapy annually declined sharply (Figure 5.1). Additionally, during this same time period with project support, a total of 12.7 million villagers residing in high prevalence communities were treated (or retreated). As is the case for the school children, both the number of villages and the number of villagers declined over time, as prevalence rates were reduced (Figure 5.2). During this period the definition of high prevalence (or “hot spot”) areas was more strictly defined (Box 5-1).³³ As prevalence dramatically declined (para. 5.15), some facilities have recently started following a strategy of micro focal treatment, whereby only infected people are treated and then tested after three months.

Figure 5.1: Mass Chemotherapy in Schools, 1997-2006



Source: MoHP, NSCP/EDCD Data, 2007

Figure 5.2: Mass Chemotherapy in Villages, 1997-2006



Source: MoHP, NSCP/EDCD Data, 2007

³² Project support included the procurement of the new pediatric suspension (liquid) formula of Praziquantel (in addition to the tablet form) used for treating young children and others who have difficulty swallowing (developed under the SRP).

³³ These stricter definitions were set on the advice of the tropical parasitologist, who was part of the Bank’s supervision team and on the advice of WHO.

Box 5-1: Prevalence thresholds for the use of mass population chemotherapy in “hot spot” villages
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- | |
|--|
| <ul style="list-style-type: none"> • < 20 percent in 1997 • ≥ 10 percent in 1999 • ≥ 5 percent (year not available) • ≥ 3.5 percent in 2002 |
|--|

<i>Source: MoHP/EDCD/NSCP, 2007</i>

5.8 ***With project support the NSCP adopted and implemented a new snail control strategy, applied in a more focused manner, and used as a supportive strategy to mass chemotherapy.*** Under this new strategy, snail teams attached to local health facilities survey all canals and drains twice per year and spray two to three times annually (as opposed to the quarterly activities of the previous strategy). Niclosamide is applied in canals and water courses in a much more focused geographic area than under the previous strategy: small perimeter of 1 km around high prevalence villages (based on human infection rates), and in any canal where infected snails are found.

5.9 ***During the project implementation period overall program costs have been reduced considerably.*** While IEG was unable to obtain data on total program costs before and after the project intervention, there is still strong evidence of important cost reductions. *With regard to treatment* (a) the price of Praziquantel decreased by 75 percent between 1995 and 2001, from LE 0.98 to LE 0.24 per tablet, and (b) the number of doses administered annually decreased dramatically among school children (from 7 million in 1997 to 0.01 million in 2006) and villagers (from 2.9 million in 1997 to 0.7 million in 2006) treated through mass chemotherapy. Annual mass chemotherapy of school children and villagers, combined, was reduced by 93 percent (from 9.9 million to 0.71 million), indicating a dramatically smaller consumption of Praziquantel. This is attributable to program success in reducing prevalence (para. 5.16) and to a stricter definition of “hot spots” (Box 5-1). *With regard to snail control* (a) the price of Niclosamide decreased by 76 percent between 1995 and 2001 (from US\$50,000/ton to US\$12,000/ton); and (b) the annual consumption of Niclosamide decreased by 88 percent during this same time period (from 85 tons to 10.2 tons). The decline in consumption is attributable both to the change in snail control strategy and to program success, resulting in a decrease of the length of water courses treated from 44,000 km to 2,900 km. ***The Government of Egypt now finances independently the entire cost of program implementation, but financing does not cover operations research, which has not been institutionalized (paras. 5.11-5.12), or needed renewal of equipment and training.***

OBJECTIVE #2: STRENGTHEN THE CAPACITY OF EDCD TO DESIGN, EVALUATE AND ADJUST THE NATIONAL SCHISTOSOMIASIS CONTROL STRATEGY

5.10 The objective to strengthen the capacity of EDCD to design, evaluate and adjust the national schistosomiasis control strategy was *negligibly achieved*.

5.11 ***The project, together with other relevant support provided by USAID, failed to develop within EDCD/MoHP a capacity and discipline for carrying out evaluation and other operationally relevant studies and systematically using the results to adjust program strategy.*** Evaluation and operations research studies planned under the Bank-

financed project (itemized in Annex D) were designed to field test, in the various operational contexts of Egypt's different regions, the application of new technologies and strategies for screening, treatment and snail control in order to generate the evidence-base for further adjustment of the national schistosomiasis strategy. Evaluations of screening methods³⁴ were ultimately financed by USAID.³⁵ But none of the other evaluation studies planned under the project were undertaken. The NSCP did indeed adopt new technologies and refine its strategies for screening, surveillance, treatment, and snail control (paras. 5.4-5.8), but only the adoption of screening technologies was based on field tests and feasibility studies. The other adjustments were implemented on the advice of the tropical parasitologist, who was part of the Bank's design and supervision teams. His advice did contribute to some efficiency gains. But both this expert (as documented in his technical reports and Aide-memoires) and other health sector experts interviewed by IEG assert that program effectiveness and efficiency were, nevertheless, undermined because most of these studies were not carried out. For example, the evaluation of the current practice of screening and treating a rotating sample of community members, as a basis for assessing program performance and for establishing operational priorities, would have identified and resolved issues in the quality and accuracy of surveillance data that persist today. Assessments of the frequency of screening and treatment, the timing of follow-up treatment of intense infections and tradeoffs between more sensitive and more frequent screening would have enabled the adjustment of screening and treatment strategies to achieve even greater effectiveness and efficiency. Snail control strategies could also have been more finely adjusted had studies to establish cut-off values for snail control and to assess the feasibility, effectiveness and cost of focal mollusciciding been undertaken.

5.12 *Furthermore, innovative activities meant to field test, evaluate and fine-tune NSCP strategies and interventions in the multi-sectoral areas of health education and environmental and sanitation were largely not implemented.* The design and evaluation of innovative activities for improving sanitation and domestic water supplies in communities with high transmission rates were not undertaken. These activities were meant to test the feasibility and effectiveness of investments in infrastructure and health education to incite changes in behavior that would prevent the infections caused by humans using water in drains and canals. None of the envisaged construction of public laundries and showers was undertaken. Very little construction of community facilities for disposal of waste water and excreta was undertaken, and there is no evidence that this intervention was evaluated. The effectiveness of these promising interventions is thus not known and there continues to be no body of evidence in Egypt on which to review

³⁴ Studies financed by USAID evaluated pilots which were field testing screening technologies that are more sensitive and cheaper to use: dipsticks for testing urine; paper or nitrocellulose filters for confirming diagnosis obtained with a dipstick and for assessing the intensity of an infection; and the Kato technique for diagnosis of intestinal schistosomiasis. Study results led to an adoption of these techniques in Egypt.

³⁵ The USAID/Government of Egypt's Schistosomiasis Research Project (SRP) did support a number of other studies on various topics of operational relevance: vaccine research; the development of a suspension formulation of Praziquantel suitable for young children; the monitoring of resistance to Praziquantel; a large epidemiological study to establish the extent of prevalence; production of a slow-release Niclosamide; the development of health education material; and the evaluation of ultrasound as a diagnostic tool (El-Khoby article).

and revise NSCPs strategies for behavior change interventions. No data are available to show trends in risky behaviors because inadequate attention was paid by the project and by the program to tracking, understanding and influencing behavior change. No financing has become available to support evaluative and operations research since the closure of the project and USAID-financed SRP.

5.13 *Technical capacity for policy and strategy formulation and for program design, planning, data collection and evaluation remains insufficient and overly centralized.*

The capacity of the central level of EDCD is still lacking in terms of skills, staffing, training and modern office equipment (computers, internet, internal network facilities), especially for middle management. Training in modern methods of policy and strategy analysis and management financed under the project was limited to a few study tours and conferences, as was the training of staff in epidemiology. IEG could find no itemization of this training or evidence that it had been evaluated. A management-oriented accounting system, an important tool for establishing and evaluating the costs of various interventions, was not developed nor were accounting and budgeting functions strengthened, as planned. Among reasons for this failure, raised in interviews and documented in project files, are: Government's propensity not to draw on technical assistance programmed under the project and the failure to use project support (training, technical assistance, office equipment, internet, E-Mail and other management tools) programmed for middle management.

5.14 *The decentralization of program planning, management, data collection and evaluation was only partially achieved.*

In each of the 26 governorates an executive director of endemic disease control is responsible for overseeing program implementation and a chief laboratory technician is responsible for overseeing the work of all laboratory technicians operating in their respective governorates. District staffing provides for a physician with special qualification or experience in public health responsible for managing and supervising the program at the district level. All rural health units are supposed to have at least 1 physician and one laboratory technician to implement schistosomiasis surveillance, screening and treatment. While MoHP did undertake recruitment to strengthen staffing of these positions³⁶ and the project supported training of these staff in the application of new strategies, there is evidence that capacity is still lacking. Project training provided at decentralized levels was not evaluated.

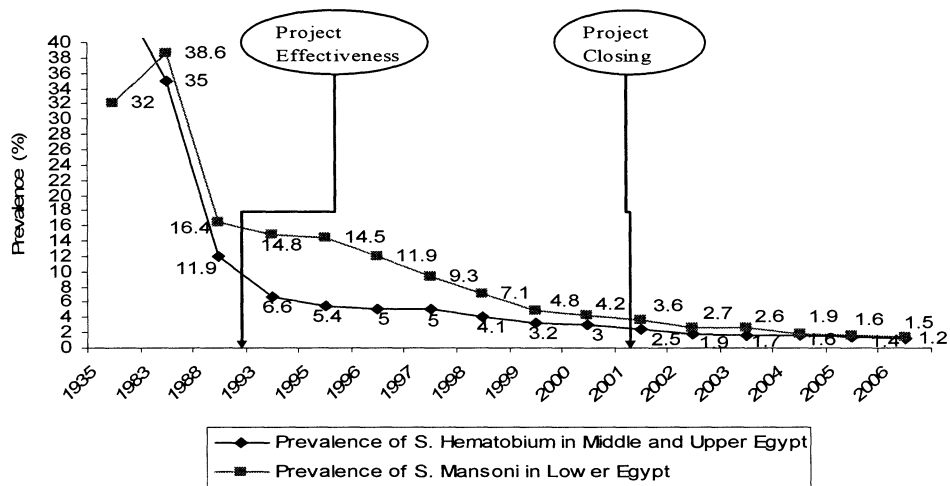
5.15 Biannual planning seminars (one for Lower Egypt governorates dealing primarily with *S. mansoni*, and one for Upper Egypt governorates dealing primarily with *S. haematobium*) have taken place in accordance with a clause in the Development Credit Agreement, but this has been insufficient for achieving the objective of decentralizing the program. Planning and decision-making remain overly centralized, which is increasingly inappropriate as the program is evolving towards a more locally-based, focal approach.

³⁶ World Bank supervision reporting indicated that 70 percent of positions were filled as a result of significant recruitment in 1998.

PROGRAM OUTCOMES AND ATTRIBUTION

5.16 *Between 1993 and 2006 the prevalence of S. mansoni (the cause of intestinal schistosomiasis in Lower Egypt) declined from a level of 14.8 percent in 1993 (the year of project effectiveness) to 2.7 in 2002 (the year of project closing) and continued to decline in the ensuing years, reaching a level of 1.5 percent in 2006. Likewise, the prevalence of S. haematobium (the cause of urinary schistosomiasis in Middle and Upper Egypt) declined from a level of 6.6 percent in 1993 to 1.9 percent in 2002, and continued to decline thereafter, reaching a level of 1.2 percent in 2006 (Figure 5.3).* Declines in prevalence have been documented for all governorates during this period. Annex G shows more trends for various parts of Egypt, all showing that (a) since project effectiveness the decline in prevalence has accelerated; and (b) since project closing declines in prevalence have continued. Nevertheless, there remain several areas of high prevalence scattered in some localities. In Lower Egypt in 2006 localities with prevalence rates for *S. mansoni* greater than 3 percent included two districts³⁷ and 33 villages.³⁸ In Upper Egypt there is not a single district that has a prevalence rate for *S. haematobium* that is greater than 2 percent, but some 35 villages still have prevalence rates of more than 3 percent.³⁹ Over and above declines in prevalence, EDCD/MoHP as well as front line health providers report a decline in the intensity of infections and in morbidity. Clinical cases of schistosomiasis are reported by EDCD and field-based staff to have virtually disappeared.

Figure 5.3: Prevalence of Schistosomiasis in Egypt, 1935-2006



Source: MoHP, NSCP/EDCD Data, 2007

5.17 *Project support to the modernization, strengthening and expansion of NSCP activities is assessed to have directly contributed to declines in prevalence because these investments enabled NSCP to apply the latest technologies and implement, on a nationwide basis, screening, treatment and snail control interventions that are known to be effective.* In assessing attribution, it is important to recall that between project

³⁷ Damnhour and Housh Issa in Behera Governorate.

³⁸ 24 in Behera, five in Dakahliya, two in Kafr El-Shiekh, and two in Ismailiya.

³⁹ Two in Fayoum, three in Minya, 18 in Sohag, three in Assuit, and 12 in Qena.

effectiveness and closing (1992-2002), Egypt's schistosomiasis control efforts received financing from two other sources: (a) AfDB's US\$8.0 million credit supporting program activities in three governorates in the Delta region (1990-1999); and (b) USAID's US\$39.7 million grant to support schistosomiasis R&D (1988-1998). Estimated annual disbursements from these two sources and IDA disbursements (Annex D, Table D-3) reveal that during the period 1992-2002 IDA financing made up one third of all external financing for schistosomiasis, with AfDB and USAID shares at 15 percent and 52 percent, respectively. During the decade prior to project effectiveness, prevalence rates for both *S. mansoni* and *S. haematobium* were declining rapidly, a likely outcome of significant investments in water supply, sanitation and drainage as well as activities of NSCP before they were expanded and modernized. It is also likely that investments in water supply, sanitation and drainage made during the time of project implementation have also contributed to declines documented during the project implementation period.⁴⁰ However, their impact has not been evaluated.

6. RATINGS

6.1 The **outcome** of the National Schistosomiasis Control Project is *moderately satisfactory*, overall. The outcome of the first objective is *satisfactory*, based on its *substantial* relevance, efficacy and efficiency. The outcome of the second objective is *unsatisfactory*, based on its *negligible* efficacy and *modest* relevance and efficiency (Table 6-1). In assessing overall outcome, greater weight was given to the first objective, given its importance in alleviating Egypt's overall disease burden and its substantial share of total project support.

Table 6.1: National Schistosomiasis Control Project: Summary of IEG Ratings* by Objective

Development Objective	Relevance of Objectives and Design	Efficacy	Efficiency	Outcome
Expand the coverage and improve the operation of the NSCP	Substantial	Substantial	Substantial	Satisfactory
Strengthen EDCCD capacity to design, evaluate and adjust the national schistosomiasis control strategy	Modest	Negligible	Modest	Unsatisfactory
Overall Project Rating				Moderately Satisfactory

6.2 Overall **relevance** is a function of the relevance of project objectives (assessed in this paragraph) and project design (assessed in paragraph 6.3). The **relevance** of both *project objectives* is *substantial*. Egypt's long term goal is to improve access to health care for its citizens through the implementation of health sector reform (Annex H). The Bank's Country Assistance Strategy for Egypt for the period 2006 – 2009 supports this goal in its aim to improve coverage and quality of health care for the poor by (a) increasing coverage of the basic health benefits package to 45 percent in the target governorates of Menofia and Alexandria; (b) increasing utilization rates of (new) family health services; and (c) reducing regional and income disparities in access to basic health

⁴⁰ Public health research does indicate that improved water supply and sanitation does contribute to declines in prevalence (Hotez et al., 2007).

services. The project objective to expand the coverage and modernize NSCP services, delivered through Egypt's health system, is responsive to Egypt's and the Bank's broader health strategies that emphasize coverage, quality, efficiency and equity. Schistosomiasis is a disease that affects the poor in particular (Hotez et al., 2007) and thus responds to equity goals. The project objective to strengthen EDCC capacity responds to the CAS objective of establishing standards and guidelines for service quality and to the HRSP strategy of institutional development.

6.3 The **relevance** of the *design of the first component* (supporting the first objective) is *substantial*. The technical design was strong, but there were major shortcomings. The design: (a) focused on an intervention that was of high priority for government and well defined in terms of specific services, commodities, activities; (b) was supportive of a national strategy; (c) facilitated an evidence-based process for experiential learning and strategy refinement. Other positive aspects included: its technical rigor enabling the exploitation of technology breakthroughs and consequent strategy refinements; and its assessment and monitoring of technology risks (drug resistance and environmental safety of molluscicide). Nevertheless, there were shortcomings. The design effectively addressed two of the four schistosomiasis interventions (treatment and snail control) but was weak in its support to behavior change interventions, touching upon the other two strategies (health education and water and sanitation). Project attention to these latter strategies was relegated to a fund for innovative activities, without proper technical analysis and project preparation, and which ultimately were not carried out. The **relevance** of the *design of the second component* (supporting the second objective) is *modest*. The results chain of the capacity building objective was not well articulated, interventions were not well defined, roles and responsibilities were not fully assessed and redefined in light of the program decentralization objective, and no indicators were proposed to measure performance and outcome of capacity building. Quality at entry was weak due to the absence of: bidding documents ready for the first year of implementation (although technical specifications of goods were defined), and implementation schedules, including a detailed plan for training and supervision of staff and performance evaluation.

6.4 As summarized in Table 6.1 and discussed in Chapter 5, the *project's first objective* was achieved with *substantial efficacy* (paras. 5.2 – 5.9), but achievement of the *second objective* was *negligible* (paras. 5.10 – 5.14). In assessing overall efficacy, a heavier weight was applied to the first objective because of the share of project funds devoted to it (97 percent) and, especially, because it was instrumental and effective in contributing to successful program outcomes.

6.5 The *first objective* was achieved with *substantial efficiency*. The cost-effectiveness of new strategies for treatment and snail control has increased, with their more carefully defined interventions, lower prevalence thresholds, and use of new, better performing technologies, along with dramatic declines in the cost of these interventions (para. 5.9). Nevertheless, there were some inefficiencies. According to Hotez et al., health education and communication (promoting safe behavior) constitute an essential component of any (schistosomiasis control) strategy and a cheaper and faster way to reduce water contamination. While no cost-effectiveness estimates exist for health education and communication, available evidence suggests that this intervention can

decrease costs, increase knowledge, decrease reinfection rates and build the trust and engagement of communities. Health education was not vigorously pursued in project design and implementation, nor was it effectively covered by other financiers.

6.6 The **efficiency** with which the *second objective* was achieved is *modest*. The failure to fully achieve the project's capacity building objective also undermined its efficiency. The failure to undertake evaluation and other operational studies resulted in a lost opportunity for further refining strategy and a weaker link between evidence and program management. The allocation of roles and responsibilities between central level and decentralized entities has not been fully defined, and the program is still overly centralized. Furthermore, there are indications that capacity for program implementation falls short of needs. An economic analysis undertaken at the time of project appraisal is based on mortality projections, but did not capture morbidity, which constitutes the major burden of schistosomiasis. All of the elements needed to measure schistosomiasis morbidity were not in place so an economic analysis was not undertaken at the end of the program.⁴¹

6.7 **Risks to Development Outcome** is *substantial*. A technically sound strategy requires continuous fine-tuning on the basis of: research and evaluation to incorporate and field-test new technologies and emerging program challenges as the economic, social, and epidemiological situations change. The absence of evaluation and research capacity in MoHP and financial support for research poses a risk to program effectiveness (paras. 5.11 and 5.12). While GoE is reported to be financing virtually all of the program's operating costs, field visits and interviews reveal that this does not adequately cover all programs needs, notably: the renewal of governorate-level laboratory equipment, studies and operations research, training and supervision. While political support remains strong, the population's support and appreciation of the program and its own critical role in preventing infection are likely to further wane in the absence of more emphasis on behavior change interventions and social engagement. Technically sound and full implementation of the program strategy throughout the health system is at risk in the absence of efforts to reconcile the imbalance between the program's supply of and demand for capacity, including: the adequate number and skills level of implementers; their backstopping through the design, delivery and evaluation of training programs and more frequent and technically competent supervision and quality control; and possibly the redefinition of activities that could reduce time spent without compromising results.

6.8 Governance issues, if left unchecked, are likely to put development outcomes at risk. Incentives emphasizing the quantity of tests are putting the accuracy of program data and trends at risk. A range of country-level informants have noted that the HRSP does not sufficiently emphasize public health interventions in practice. Family Health facilities operating under the HSRP performance system are measured by a range of performance indicators, but not one is specific to schistosomiasis. Some reformed facilities are reported to be charging fees to patients for testing and services, even though

⁴¹ *The Global Burden of Disease Due to Schistosomiasis* (Michaud, 2003) points out major discrepancies in World Bank and WHO disease burden estimates, due in part to the choice of disability severity weights, and point to the need for more research on this topic.

they are to be provided free of charge. Major investments in reformed health facilities' laboratories are reported to have bypassed governorate laboratory facilities for the schistosomiasis program, despite their need for equipment renewal.

6.9 **The Bank's overall performance** was *moderately satisfactory*. *During preparation* the Bank's performance was *moderately unsatisfactory*. Technical quality at entry was sound. The Bank undertook a thorough analysis of environmental aspects of the disease transmission and the safety and effectiveness of mollusciciding. Implementation arrangements were not sufficiently advanced at the time of project approval, which caused important delays in implementation during the first few years. Risk assessment was sound overall, but overlooked some critical risks (para. 3.10). The design of the capacity building objective and monitoring and evaluation were weak.

6.10 The Bank's performance *during supervision* was *moderately satisfactory*. The tropical parasitologist who was involved in project design participated in supervision throughout implementation. This ensured a consistent and technically sound dialogue. Technical supervision was proactive, rigorous and constructive. Against the backdrop of rapidly declining prevalence across the country (an indication of program success) the Bank challenged MoHP to keep to the spirit of the project and undertake ongoing research and analysis and refinement of strategy. Dialogue remained intensive throughout implementation. Aide-memoires, technical papers and dialogue advised Government to: evaluate new strategies, develop stronger inter-sectoral approaches, ensure close surveillance of newly reclaimed areas, develop a strategy for behavior change, exploit program data more fully, commission an independent validation of the quality and accuracy of program data, intensify capacity building efforts, and integrate more fully the program activities into the health services. The Bank might have been more strategic in encouraging improved Government performance in these areas through: better use of the potential leverage of project extensions; and more proactive coordination with USAID with a view to possibly drawing on grant monies under the SRP for the financing of critical evaluation studies.

6.11 Resources for project supervision were lacking for the first few years of implementation, when intensive supervision was needed. Informants noted that the Bank was very slow in launching project implementation. While the project became effective in 1993, implementation only started in 1996. Supervision in the ensuing years was well resourced. The appointment of a locally-based task team leader in 1998 and the placement of fiduciary experts at the Bank's office in Cairo further enhanced the Bank's presence in Egypt and facilitated a closer supervision and dialogue. The Bank's value-added is evident both in its financial and technical supports. Had the Bank not invested in this project, prevalence might still have continued to decline (perhaps more slowly), but program efficiency would have been weaker.

6.12 **Borrower performance** was *moderately unsatisfactory* overall. The performance of *Government* was *moderately unsatisfactory*. High national ownership and commitment were instrumental in the successful expansion and modernization of the program. However, delays within the Government's control caused very slow project start-up, including a one-year lapse between approval and effectiveness, a one and one half year delay in the opening of the Special Account after effectiveness, and slow action

in reconciling the Bank's and Egypt's procurement rules. GoE was also unwilling to use project technical assistance and consulting services. As a result, evaluation studies, capacity building of middle management, improvements to data quality control and validation, and the strengthening of budgeting and accounting systems were not implemented. An inter-disciplinary and inter-sectoral "think tank" proposed at the beginning of the project was not constituted. The inter-sectoral High Committee of Schistosomiasis Control, headed by the Health Minister, with multi-sectoral membership,⁴² did meet regularly, but has not been effective in coordinating agencies responsible for water quality and environmental management.⁴³

6.13 The performance of the EDCD, which was the *project implementing agency*, was *moderately satisfactory*. During preparation the EDCD was productively involved in the technical design of the project. During implementation, however, the EDCD Director is reported to have run project activities largely by himself, despite the fact that the EDCD was adequately staffed with professional and administrative staff. The procurement of drugs, pesticides, laboratory equipment and supplies was carried out by the Central Purchasing agency of MoHP, which performed very poorly at the project's outset, but improved somewhat over the life of the project. Overall project management, in terms of disbursement, procurement and financial management slowly improved over time, but issues related to M&E remained unsatisfactory throughout project implementation.

6.14 Project **monitoring and evaluation** was *modest* (Chapter 4).

7. LESSONS AND CHALLENGES

7.1 It has been almost six years since this project has closed. As shown in Chapter 5 (Figure 5-3) and Annex G, declines in prevalence rates across Egypt accelerated during project implementation, and prevalence has continued its downward trend in the years following the project's closing date. With the exception of one project financed in the approximate amount of US\$0.4 million by Italy with technical support from the University of Valencia and WHO,⁴⁴ and implemented during the period 2004-2007, the GoE reports that it has financed all of the costs of the NSCP operations since project closing. However, government financing of NSCP has not supported operations research, and needed renewal of equipment and training. Further, the National Schistosomiasis strategy has not essentially changed since the closing of the IDA credit.

⁴² Members included representatives from: Water Resources and Irrigation, Electricity, Agriculture, Environment, Social Affairs, Education, Information, Religious Affairs, Interior, and Health Insurance.

⁴³ Of the 4 interventions available for control, three (chemotherapy, snail control and health education) are the responsibility of the MoHP, whereas the fourth (water quality and environmental management) is the responsibility of other agencies such as Water Resources and Irrigation. The role of the High National Committee for Schistosomiasis Control is to ensure the good coordination across relevant sectors in support of effective interventions.

⁴⁴ (a) An integrated helminth control program implemented in all governorates in the Nile Delta and in two governorates in Upper Egypt (Beni Suef and Fauym). This project was funded under the Debt for Development Swap Program between the Egyptian and Italian Government, with technical input from WHO and the University of Valencia. This project provided an estimated US\$400,000 to strengthen schistosomiasis control through school health programs and community-based interventions.

LESSONS

7.2 *Project and program experience reveal that a single-purpose public health intervention, such as the schistosomiasis program, is amenable to success because its purpose is clear, its goals and objectives explicit and easily quantifiable, and its interventions (the what) well defined.* The design of the first component (supporting the first objective) was sound in large part because of the clear goals, well-established interventions and well-defined results chain of Egypt's schistosomiasis program (para. 6.3). The implementation of this component, which supported the strengthening and expansion of well-established interventions, did indeed contribute to the decrease in prevalence documented during the project period (paras. 5.16 and 5.17).

7.3 *Nevertheless, such a program, even when it incorporates state-of-the-art knowledge and technologies, is unlikely to be fully cost-effective or evidence-based if its strategies (the how) are not (i) well-adapted to the country context⁴⁵ and (ii) periodically assessed and revised to take into account program progress, new knowledge and technologies and evolutions in the country context.* Program effectiveness and efficiency were undermined because most evaluative studies planned under the project were not carried out. As a consequence, there are gaps in knowledge of the costs and effectiveness of various program interventions and activities in the particular context of Egypt and, stemming from this, an inability to identify and exploit opportunities for further reducing costs and enhancing effectiveness. Among many examples are: (a) the optimal frequency of screening and treatment has not been established; (b) the tradeoffs between more sensitive and more frequent screening have not been assessed; (c) the screening and treatment of a rotating sample of community members as a basis for assessing program performance and establishing operational priorities still has not been evaluated; (d) the possibility of following up treatment of patients after one year instead of three months has not been explored; (e) cut-off values for snail control have not been evaluated; (f) the feasibility, effectiveness and cost of focal mollusciciding are not known; and (g) the potential of community laundries and showers for further reducing prevalence has not been explored (paras. 5.11, 5.12 and 6.6).

7.4 *Project experience has also revealed that the design of rigorous and technically sound evaluation studies, specifically tailored to inform the adjustment of intervention strategies for improved performance and outcome, is a necessary, but insufficient condition for improved strategic management and cost-effectiveness. Such studies are unlikely to be carried out and effectively used in the absence of other essential conditions.* Factors which influenced the neglect of evaluative studies under the project include: the lack of conviction of managers and decision-makers of the value added of such studies; the unwillingness to finance them (be it with a credit or other sources); weak capacity to undertake (or commission) them; and the absence of well-defined processes and incentives to exploit study results for decision-making (para. 4.4).

⁴⁵ Elements of country contexts that have a bearing on strategies include: epidemiology; health sector and health systems institutional and organizational framework, efficiency, capacity, incentives, budget, financing; sociology; poverty; inter-sectoral coordination mechanisms; population distribution, among others.

CHALLENGES

7.5 The application of these lessons takes on even more importance as they support the challenges posed by a number of issues and events currently facing Egypt's health sector.

7.6 *Health sector reform program (HSRP)*. Launched in the mid-1990s, the HSRP seeks to separate service delivery from financing, rationalize services through the delivery of an integrated package of services by family health facilities, and ensure sustainable financing through risk pooling and the financing of services on the basis of performance indicators (Anne H). Experience to date in pilot governorates (Alexandria and Menoufia) point to challenges in ensuring that the schistosomiasis control program will not suffer any setbacks as it is integrated into the basic services package. While significant investment in laboratory equipment and capacity has been made in family health units, which has benefited the schistosomiasis program front-line efforts, the governorate-level schistosomiasis program staff and premises have not benefited from such investment even though their facilities, skills, equipment and vehicles are in need of renewal and critical to support of front-line services. There are no schistosomiasis-specific performance indicators under HSRP, on which basis financial incentives are paid. This could discourage attention to schistosomiasis activities. The development of a disease surveillance capacity under HSRP will need to take into full account the demands and lessons to date of the schistosomiasis surveillance efforts and ensure their prominence and strengthening in an integrated system. A number of informants and an independent evaluation of the project (PEMA, 2004) have noted that some reformed facilities are charging patients for schistosomiasis examinations and treatment, which are supposed to be free of charge. This discourages patients from accessing these services, and exacerbates the risk of further transmission of the disease.

7.7 *New Strategy for Eradication*. EDCD prepared in late 2007 with WHO support a proposal to evolve its strategy from the control of schistosomiasis in Egypt to its eradication (defined as the reduction of the prevalence of *S. mansoni* and *S. haematobium* to less than 0.1%). Planned activities include: (a) capacity building of health professionals and school teachers; (b) implementation and monitoring of field activities; and (c) social mobilization activities. The lessons from this evaluation may provide guidance and direction to this effort. Clarity of program objectives and the results chain, more attention to institutional and organizational issues, stronger links between evaluation results and decision-making, and capacity building all should support and strengthen the development effectiveness of eradication efforts.

7.8 *Program Financing*. While incremental financing is needed to support this more aggressive strategy, (i) partners that have traditionally invested in the NSCP (USAID, AfDB, and the World Bank) have reoriented their support around Health Sector Reform, and (ii) as of 1999, Egypt achieved lower middle-income status and graduated from IDA to IBRD lending. The costing and financing of this new strategy, as well as its appropriate integration into health sector reform, will be critical to its success.

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Annex A. Basic Data Sheet

Key Project Data

	<i>Appraisal estimate</i>	<i>Actual or current estimate</i>	<i>Actual as % of appraisal estimate</i>
Total project costs (US\$ million)	43.3	24.9	58%
Credit amount (SDR million)	19.6	16.2	83%
Cancellation (SDR million)		3.4	

Project Dates

	<i>Original</i>	<i>Actual</i>
Concept Note	10/09/1989	10/09/1989
Negotiations	05/13/1992	05/13/1992
Board approval	06/25/1992	06/25/1992
Signing	07/29/1992	07/29/1992
Effectiveness	11/26/1992	06/15/1993
Closing date	06/30/1999	09/30/2002

Staff Inputs (staff weeks)

	<i>No. Staffweeks¹ FY96-FY05</i>	
Lending	NA	350.6
Supervision	NA	426.8 ²
Total		777.4

¹ Data on staffweeks are unavailable due to the phasing out of the FACT system.

² This rather low coefficient for supervision of a 10-year project is due to (a) inadequate/infrequent supervision during the early years of the project; and (b) the assignment in 1998 of the task team leadership to an Egyptian staff based in Cairo.

Mission Data

	<i>Date (month/year)</i>	<i>No. of persons</i>	<i>Staff days in field</i>	<i>Specializations represented</i>	<i>Implementation Progress</i>	<i>Development Objectives</i>
Identification/ Preparation	12/87	1		Pr. HR Ec.		
	01/88	2		Pr. HR Ec.; Cons. Schisto;		
	05/91	3		Pr. HR Ec.; Cons. Schisto; Mgt Cons.		
	12/91	3		Pr. HR Ec.; Cons. Schisto; Mgt. Cons.		
Appraisal/ Negotiation	02/92	3		Pr. HR Ec.; Cons. Schisto; Mgt. Cons.		
Supervision	12/93	3		Op. Officer; Op. Assist.; Cons.	S	S
	03/94	2		Health Spec.; HR Spec.	U	S
	01/95	3		PH Spec.; Schisto. Cons.; HR Spec.	U	S
	06/95	1		Health Spec.	S	S
	10/95	1		Health Spec	U	S
	02/96	2		Health Spec.; Schisto. Cons.	U	S
	06/96	2		Prog. Officer; Op. Officer	U	S
	04/97 (MTR)	5		PH; Impl. Spec.; Op. Officer; Prog. Officer; Cons. Schisto	S	S
	11/97	2		Op. Officer; Impl. Spec.	S	S
	05/98	2		HR Spec.; Op. Officer	S	S
	10/98	2		Schisto. Cons.; Op. Analyst	S	S
	10/99	4		Health Ec.; Health Spec.; Impl. Spec.; FMS	S	S
	02/00	5		Health Ec.; Health Spec.; MIS Impl. Spec.; PH. Spec.; Prog. Assistant	S	S
	06/00	7		Health Ec.; Health Spec.; Op. Officer; Prog. Assistant; MIS Cons.; FMS; Cons. schisto	S	S
	12/00	3		Health Spec; FMS; Op. Officer	S	S
	03/01	4		Health Ec.; Health Spec.; FMS; Op. Officer	S	S
01/02	2		Health Spec. Op. Officer	S	S	
04/02	2		Health Spec.; Impl. Spec.	S	S	
Completion	10/02	7		Health Spec. Op. Officer; PH Cons.; IT Cons.; Impl. Cons.; FMS; Env. Cons.	S	S

Annex B. Persons and Organizations Consulted

Egypt Cairo

Ministry of Health

Dr. Zeinab M. Youssef, Undersecretary of Endemic Diseases
 Dr. Hala Massekh, General Director and Health Insurance Coordinator, Technical Support Office, Health Sector Reform Program
 Dr. Mohamed Mostafa Yousef, General Director, Schisto and Intestinal Parasite Control Department
 Dr. Mohamad Atef Hassan, Director of National Schisto Projects
 Dr. Agat Atef Haggag, Director of Chemotherapy Department, Endemic Diseases
 Dr. Isaac, Family Health Fund, Technical Support Office, Health Sector Reform Program

Ministry of International Cooperation

H.E. Fayza Aboulnaga, Minister of International Cooperation
 Souraya Abo El Saoud, Under Secretary of State, International, Regional and Arab Financing Organizations
 Dr. Talaat Abdel-Malek, Executive Director and Economic Advisor to the Minister of International Cooperation, and Head of the Center for Project Evaluation and Macroeconomic Analysis (PEMA)

Social Fund For Development

Aliaa El Sherif, Manager, International Cooperation Group
 Hanaa El Hilaly, General Manager, International Cooperation Group
 Amany H. Youssef, Sector Head, International Cooperation Group
 Walid Mansi, Manager of the Monitoring Department, International Cooperation Group
 Engineer Medhat Masoud, Manager, Community Health and Education Department
 Howaida El Hawary, Deputy Manager, Community Health and Education Department
 Engineer Mohamed Hashem, Director, Community Infrastructure Sector
 Essam Elsayed, Population Officer

Other Public Sector Organizations

Dr. Hassan Zaky, Social Research Center, American University of Cairo

Development Partners

Holly Fluty Dempsey, Deputy Director, Office of Human Resources and Health, Chief, Health and Population, USAID/Egypt
 Dr. Zuhair Hallaj, Special Advisor, Communicable Disease Control, WHO Regional Office for the Eastern Mediterranean, and Acting WHO Representative

The World Bank

Emmanuel Mbi, Country Director for Egypt
 Dr. Alaa Abdel-Hamid, Senior Health Specialist for Egypt, and Task Team Leader of Population Project

Governorate of Alexandria

Directorate of Health – Governorate Level

Technical Support Team, Health Sector Reform Program

Dr. Maha Hassieb, TST Coordinator
 Dr. Amiyra, TST Coordinator Alexandria, 1998-2007
 Dr. Hisham Bedeir, Family Health Fund Director

Tropical Disease Control

Dr. Saad Eldin Add Halim, Tropical Disease Director, Schistosomiasis Control

St. Stefano Family Health Center

Dr. Hala Moussa, Director

Governorate of Menoufia**Directorate of Health – Governorate Level*****Technical Support Team, Health Sector Reform Program***

Dr. Mohamed El Hayatmy, TST Coordinator

Dr. Ahmed Reda Ed-Dorghamy, Family Health Fund

Tropical Disease Control

Dr. Samya Mohamed Shahin, Director of Schistosomiasis Program

Governorate of Menya**Directorate of Health – Governorate Level*****Health Team, Matty District***

Dr. Atef Omar, Manager of a Health Unit

Heba Ibrahim, Office Responsible for Change Agents within MoHP

Family Health Unit, Minya**Social Fund for Development**

Fayza Kamel Eltahnawy, Manager, Regional Office

Montassar Rouchdy, Officer Responsible for Community Development

Governorate of Qena**Social Fund for Development**

Amr Abdullah, Deputy Manager

Mahmoud Hindai, Responsible for Community Development Activities

Mohamed Gabber, Responsible for Population Project

United States of America**The World Bank, Washington, D.C.**

Francisca Ayodeji Akala, Senior Public Health Specialist, Author of ICR and current TTL of Egypt Family Health Insurance Project

Jean-Jacques Frere, Public Health Specialist, Middle East and North Africa Region

John Langenbrunner, Lead Economist, Health, former Task Team Leader of Family Health Insurance Project (under preparation)

Annex C. Background and Context

Table C 1: Timeline of Events

Year	Egypt	World Bank	Other Partners
1851	Theodor Bilharz discovers the causative agent of haematuria: <i>Schistosoma</i> (1)		
1914	Leiper discovers the two genera of snails (<i>Bulinus</i> and <i>Biomphalaria</i>) that transmitted the two species, <i>schistosoma haematobium</i> and <i>S. mansoni</i> , respectively. (1)		
1915	Egypt starts to fight against Schistosomiasis by implementing pilot projects, using either snail control or chemotherapy. (4)		
1920	Egypt assumes its leading role in the field testing of new drugs and molluscicides, with the introduction of the first antimony-based cure for schistosomiasis. (1)		
1930s	Egypt undertakes a national health education campaign to change behaviors and reduce the contact of populations with contaminated water, but efforts are not proven to be effective. (5)		
1960s	A new molluscicide, Niclosamide, appears on the market, known for its more effective killing of snails.		
1964-1966	The risk of schistosomiasis is significantly increased by the construction of the Aswan High Dam, which creates an environment conducive to its transmission through expanded irrigation. (2)		
Late 1960s	Launched in 1968, a major program aimed to eradicate schistosomiasis from Fayoum, using blanket mollusciciding with niclosamide, supplemented by chemotherapy using ambilhar, reduces prevalence, but only temporarily. (1) (4)		
1973		Upper Egypt Drainage Project with a Schistosomiasis component is approved (US\$36 million) First Population Project is approved (US\$5 million)	
1974	High Dam (Aswan) Lake Project starts, where prevalence is 67.1% (<i>S. haematobium</i>).		
1975	MoHP begins planning for the National Schistosomiasis Control Program (NSCP) (overseeing all schistosomiasis projects).		
1976	NSCP is established in MoHP (MoHP, June 2007)	Second Upper Egypt Drainage Project with a Schistosomiasis component is approved (US\$50 million).	
1977	Implementation of NSCP starts through the primary health care system. (4) A large control program commences in Middle Egypt, including snail control (niclosamide) and treatment (Bilarcil/metrifonate) activities. The program is later expanded southwards to cover an additional 12 million people. (1) The famous singer, Abdel Halim Hafez, dies from complications due to schistosomiasis, ensuring a high profile for the disease. (1)	Nile Delta Drainage Project with a Schistosomiasis component is approved (US\$66 million).	
1978		Second Population Project is approved (US\$25 million).	
1979		First Population Project is closed.	
Late 1970s	Prevalence and intensity of the infection increased in Lower Egypt (Nile Delta), along with a shift in the relative prevalence of the two species of schistosomiasis (with <i>S. mansoni</i> increasing dramatically and <i>S. haematobium</i> decreasing). Severe symptoms from <i>S. mansoni</i> (including high blood pressure, portal hypertension and death from haematemesis) are reported. (1)		

Year	Egypt	World Bank	Other Partners
1980	NSCP Upper Egypt Project starts, where prevalence is 29.4% for <i>S. haematobium</i> infection.	New Land Development Project with a schistosomiasis component is approved (US\$80 million).	First African Development Bank (AfDB) credit in the amount of US\$9.5 million equivalent (UA 7.37 million) is approved to finance the Bilharzia Control Project. Geographic focus: West Nubariya settlement area, Middle and Upper Egypt and governorate of Giza. (2)
Early 1980s	Introduction of Praziquantel in the 1980s provides a major breakthrough for Schistosomiasis control program as it offers a simple, safe and effective drug treatment against all human Schistosome species.		
1982			Second AfDB credit in the amount of US\$9.5 million equivalent (UA 7.37 million) is approved to finance the Bilharzia Control Project II. Geographic focus: Damietta, Manzala, Hosseinia, Ismailia, Port Said and Suez. (May) (2)
1983	NSCP Giza Project starts, where prevalence is 22.6% (<i>S. haematobium</i>) and 1.2% (<i>S. mansoni</i>). (4)		
1985			USAID-financed Schistosomiasis Research Project (SRP) is designed. (1) First AfDB-financed project is completed. (2)
1986	NACP Suez Canal Project starts, where prevalence is 10.7% (<i>S. haematobium</i>) and 18.3% (<i>S. mansoni</i>). NSCP West Nubariya Project also starts, where prevalence is 46.6% (<i>S. mansoni</i>). (4)	Second Population Project is closed.	
1988	Praziquantel becomes available free of charge to all Egyptians through the Ministry of Health network of Rural Health Units (RHUs). (1)		SRP implementation is launched. Its objectives are to (a) provide the Ministry of Health in Egypt with better tools with which to control schistosomiasis; and (b) build the capacity of Egyptian scientists to carry out biomedical research. (1)
1989			Third AfDB credit in the amount of US\$8.0 million equivalent (UA 6.20 million) is approved to finance the Bilharzia Control Project II. Geographic focus: Nile Delta. (March) (2)
1990	NSCP Middle Delta Project starts, where prevalence is 4.6% (<i>S. haematobium</i>) and 17% (<i>S. mansoni</i>). (4)		Third AfDB credit becomes effective (October). (2)
1993			Second AfDB-financed project is completed. (2)
1995	MoHP appoints an Executive Director to run the National Schistosomiasis Control Program, and all its externally funded schistosomiasis control projects. NSCP East Delta Project starts, where prevalence was 1.8% (<i>S. haematobium</i>) and 12.4% (<i>S. mansoni</i>). (4)		

Year	Egypt	World Bank	Other Partners
1996	NSCP West Delta Project starts, where prevalence is 0.5% (<i>S. haematobium</i>) and 22.6% (<i>S. mansoni</i>). (4)	Third Population Project is approved (US\$17.2 million).	
1997	MoHP develops a comprehensive Health Sector Reform Program, supported by several development partners, whose main objective is to develop a national health system, based on social insurance, that will address existing problems in equity, access, efficiency, quality and financial sustainability of the health care system based on improved integration of the public health sectors and provide improved quality and affordable services. Pilot phase (1997-2002) focuses on primary health care delivery and health care financing. (3) With significant reduction in overall prevalence and intensity, several areas of high prevalence persisted. A ministerial decision is issued in 1997 to use the mass chemotherapy approach in these hot-spot areas, given: the safety, proven efficacy and low price of Praziquantel. Criteria for selection of governorate or village for mass chemotherapy was prevalence > 20%. (4)	CAS is issued. Health component of human development pillar is heavily oriented around health sector reform.	
1998			SRP is completed (September 1998). SRP is extended for an additional five years (to 2003) but this support is limited to only one component: vaccine research.
1999	The criterion for selecting villages and schools for mass chemotherapy was lowered to prevalence > 10%. (4)	Egypt graduates to lower middle-income country status and is no longer eligible for IDA credits.	Third AfDB-financed project is completed (June). (2)
2001		CAS is issued, emphasizing support to health sector reform under the poverty reduction pillar.	
2002		National Schistosomiasis Project closes.	
2005		Third Population Project is closed. CAS is issued, with health sector strategy and interventions focused on the support of health sector reform in two governorates.	
2007	MoHP prepares, with WHO assistance, a draft proposal for the eradication of Schistosomiasis.		

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Table C 2: Water, Irrigation, Drainage and New Land Development Projects Supported by the Bank, 1970 – Present

Project	Code	IDA Credit (US\$ millions)	IBRD Loan (US\$ millions)	Objectives and Components	Approval	Closing
Nile Delta Drainage Project	P004983	26.0	-	The project proposed for financing by the Association would be the first phase of a multi-stage program to provide improved drainage throughout four million feddans in the Nile Delta and eventually throughout the entire Nile Valley in Egypt. The project would provide tile drainage for about 950,000 feddans. The proposed credit would cover the total foreign exchange costs of US\$26 million. The principal elements of the project would be: the installation of tile drains by mechanized means; the remodeling of open drains and structures to discharge the greater drainage flows; the construction of eleven pump stations; the construction of workshops and procurement of transport for supporting services; and the employment of consultants to advise and assist the project authority.	3/70	12/80
Upper Egypt Drainage Project	P004985	36.0	-	The proposed project would provide: (A) Drainage and reclamation works over an area of 300,000 feddans to prevent continued decline in land productivity due to salinization and waterlogging. It comprises: (i) installation of 30,000 km of buried field tile drains and 4,000 km of collector drains; (ii) improvements to 775 km of existing and excavation of 865 km of open drains; (iii) construction of four new pumping stations and expansion of an existing one where gravity drainage is not possible; (iv) reclamation of 22,400 feddans of severely saline land; (v) equipment and spare parts for (i) - (iv) above; (vi) monitoring soil salinity and groundwater levels throughout the Nile Valley in Upper Egypt; (vii) consultants services, fellowships for and training of Egyptian personnel both in Egypt and overseas. (B) Bilharzia Control Program , including consultants' services, in an area of 900,000 feddans covering a discrete irrigation system and including about half the new open drains to be constructed under the project.**	6/73	7/81
Upper Egypt Drainage Project (2)	P004998	40.0	10.0	The Second Upper Egypt Drainage Project works will include: (a) installation of about 50,000 km of buried field drains of PVC corrugated pipes and 6,000 km of buried field collectors of cement pipes in the selected areas totaling 500,000 feddans; (b) deepening and widening of about 1,226 km of existing, and excavation of about 346 km of new open drains, involving approximately 23 million cubic meters of excavation; (c) construction of one pumping station of a capacity of 3.5 cubic meters per second, including transmission line; (d) reclamation by leaching of about 12,000 feddans of saline soils distributed throughout the area to be drained including subsoiling and gypsum application in about two thirds of this area where soils are alkaline; (e) <i>extension of the Government's bilharzia control program</i> by about 120,000 feddans abutting the existing program area and between the Asyut and Dairut barrages; and (f) financing the cost overrun on <i>molluscicide procurement</i> under the first Upper Egypt Drainage project.**	6/76	6/85
Alexandria Water Supply Project	P005007	-	56.0	The proposed project is designed to provide additional treatment capacity and other goods and services to (i) help AWA meet future water demand and cope with a water deficit now only being overcome at the expense of water quality; and (ii) provide reliable water meters for improved billing and reduce unaccounted-for water. The project would consist of the following: extension of three existing plants and construction of a new water treatment plant; installation of trunk water mains and booster stations; renewal of operational equipment; purchase of self-propelled water barges to supply ships in the Port of Alexandria; procurement of trucks and operational vehicles, and water meters; management and engineering consultants and training.	2/77	7/85

Project	Code	IDA Credit (US\$ millions)	IBRD Loan (US\$ millions)	Objectives and Components	Approval	Closing
Nile Delta Drainage Project (2)	P005002	27.0	39.0	The Second Nile Delta Drainage Project works include: 1: Drainage Works: (a) construction of four new drainage pumping stations, including electric transmission lines; (b) replacement of ten obsolete pumping units in two existing drainage pumping stations; (c) deepening and widening of 1,565 km of existing open main drains serving an area of 810,000 fd and extension or reconstruction of existing structures; and (d) installation of covered field drains and collectors in an area of 400,000 fd. 2: Assistance to the Extension Service of the Ministry of Agriculture by financing transportation and audio-visual equipment. 3: <i>Extension of the Government's bilharzia control program by about 1,200,000 fd between Giza and the Aswan High Dam.</i> 4: Assist in financing the partly UNDP-financed "Master Plan for Water Resource Development and Use."	5/77	12/85
Water Supply Engineering and TA Project	P005013	2.0	-	n/a	12/77	6/80
New Land Development Project	P005028	80.0	-	The project consists of: (a) construction of irrigation and drainage work to service 24,000 feddans (net) of reclaimed desert land; (b) settlement of 4,000 smallholder in 20 villages and provision of necessary economic and social infrastructure; (c) provision of farm machinery, consultant services and training, and farm credit. In addition, the project includes a <i>bilharzia component to consolidate the national program and to expand the control program into the project area and Giza Governorate.</i> Major project benefits include provision of agricultural land and increased incomes for 4,000 low income farm families and unquantifiable <i>benefits of increasing the control of bilharzia.</i> The major risk is whether the actual management and organization of the project will be adequate. The design of the project with a staged development, simple irrigation system, and three tiered organizational structure (Central Coordinating Committee, Project Unit, and Regional Implementation Committee) should minimize this risk. Assurances were also obtained that the government would ensure the timely availability of adequate funds.	12/80	12/90
Irrigation Pumping Stations Rehabilitation Project	P005039	-	41.5	The project would provide financing for 30 irrigation and drainage pumping stations serving about 1.2 million feddans in Upper and Lower Egypt. It would consist of: (i) construction of one new pumping station, replacement of the pump units in an additional 14 stations, and provision of spare parts for the rehabilitation of an additional 15 stations; (ii) provision of three central and 15 regional workshops, the establishment of six electrical laboratories, and staff housing; (iii) provision of spare parts for emergency repair of pumping stations other than those of (i) above; and (iv) a central control system for the Nasr Canal. In addition, technical assistance would be provided for the design and establishment of maintenance, accounting, and store inventory systems in the Mechanical and Electrical Department of the Ministry of Irrigation.	4/83	6/92
Water Supply and Sewerage Engineering in Dagaliya Damietta and Beheira Project	P005048	-	4.0	n/a	10/83	12/87
Beheira Provincial Water Supply Project	P005032	56.6	-	The Beheira Provincial Potable Water Supply Project consists of the following components to assist BWC: (i) extension of two existing plants and construction of four new water treatment plants; (ii) installation of trunk water mains as well as additional storage and pumping facilities; (iii) rehabilitation of existing treatment plants at 9 locations and 106 boreholes and wells including the installation of new chlorination equipment; (iv) leak detection and repair of selected sections of the existing distribution system with serial extensions as required; (v) rehabilitation of about 4000 public standpipes with provision of proper drainage facilities to reduce current pollution risks; (vi) provision of headquarters and five district center buildings, staff housing, vehicles and equipment; and (vii) procurement and installation of	6/81	12/93

Project	Code	IDA Credit (US\$ millions)	IBRD Loan (US\$ millions)	Objectives and Components	Approval	Closing
				meters for all house and standpipe connections. The project will also assist the establishment of a national water supply training center with staff and student accommodation, as well as funds for the purchase of equipment and vehicles, and a <i>small program to assist health authorities develop health measures complementary with project objectives</i> . Finally, consultant services for management, engineering and training are included		
Drainage Project (5)	P005052	-	68.0	The Fifth Drainage Project's objectives are to increase farm production by reversing the deteriorating salt and water balance in 465,000 feddans (482,670 acres), and to strengthen the Egyptian Public Authority for Drainage Projects (EPADP) to improve standards of implementation, quality control, maintenance and monitoring. The project works would include: (i) the remodeling of existing surface drains; (ii) the installation of collectors and field drains for subsurface drainage; (iii) the production of corrugated PVC pipes for field drains; (iv) the maintenance of surface and subsurface drains by construction of maintenance centers and sub-centers, provision of maintenance equipment, and maintenance of completed drainage works during the project implementation period; (v) the training and technical assistance for EPADP and the Drainage Research Institute; (vi) a monitoring and evaluation program to oversee the project's implementation progress and study the impact of drainage on depth to water table, etc.; and (vii) the provision of equipment to measure flow rates in canals.	5/85	3/94
Alexandria Water Distribution Project	P005058	-	36.0	The objectives of the Second Alexandria Water Supply Project are to improve The Alexandria Water General Authority's (AWGA) water distribution, its operation, maintenance and metering practices, and its capital structure and financial performance. The proposed project consists of: (i) the rehabilitation of secondary water distribution pipelines and replacement of associated house connections; (ii) the supply and installation of water main transmission pipelines and construction of water storage reservoirs and associated pumping stations; and (iii) the provision of parts, equipment, and other materials to improve operations and reduce the level of unaccounted for water. It further entails: (iv) assistance of experts for construction supervision; (v) engineering studies for both system and project planning and preparation; and (vi) on-the-job training and training seminars	9/88	12/96
Pumping Stations Rehabilitation Project (02)	P005149	-	31.0	The objectives of the project are to: (a) avoid future decline in yields and agriculture production through rehabilitation of about 50 pumping stations serving a total area of about 850,000 feddans benefiting about 560,000 smallholders; (b) reduce the operation and maintenance cost of the pumping stations; and (c) to strengthen the institutional capability of the Mechanical and Electrical Department (MED).	5/90	9/98
National Drainage Project	P005146	SDR 56.4	45.0	The main objectives of the project are to improve the capacity of the Egyptian Public Authority for Drainage Projects (EPADP) to implement the drainage program in areas where waterlogging and salinity have become major constraints to maintaining and increasing land productivity. The lowering of both the water table and salinity would reverse the deterioration of land and increase agricultural production on about 720,000 feddans where on farm subsurface field and collector drains would be installed, in addition to rehabilitating and remodeling open drains serving an area of 510,000 feddans. The project would also address the deteriorating environmental situation created by the discharge of untreated raw industrial and domestic waste into a few open drains. <i>ICR Review: Improved drainage has improved environmental conditions over much of the delta by eliminating breeding habitats for bilharzia and malaria - these efforts have been augmented by parallel projects supported by the Netherlands and Canada.</i>	11/91	12/00
Irrigation Improvement	P005173	47.1	22.9	The Project Development Objectives are to: (a) increase agricultural production and farmers income by improving the irrigation infrastructure, facilitating a more equitable distribution of water and improving on-farm irrigation management; (b) improve the long-term sustainability through takeover of responsibility for operation and maintenance of the tertiary level irrigation system by the farmers and their	12/94	12/06

Project	Code	IDA Credit (US\$ millions)	IBRD Loan (US\$ millions)	Objectives and Components	Approval	Closing
				sharing in the costs for tertiary level investments; and (c) strengthen the institutional planning and implementation capacity of MWRI in the irrigation subsector. The environmental objectives are: (a) water quality management and monitoring program; and (b) agricultural chemical management program. Project will support: (a) irrigation improvements for main and secondary canal systems and for the tertiary system; (b) establishment of an irrigation advisory service; (c) institutional support; (d) environmental assessment and management; (e) on-farm irrigation management demonstration program; (f) communication.		
Pumping Stations Rehabilitation III	P041410	-	120.0	The main objective of the project is to improve the efficiency and reliability of delivery of irrigation water and timely evacuation of drainage water to prevent losses in crop yields resulting from aging pumping stations. The improvement mentioned above should result in preventing production loss to the tune of US\$ 69 million/year and would benefit about 700,000 rural households established on 1.55 million feddans. The project would also improve the efficiency of O&M of the pumping stations and thereby save public expenditures on O&M to the tune of US\$ 1.2 million/year during the first 5 years after project's completion. The project also aims to reduce the energy consumption by about US\$ 2.1 million/year. In addition, the project will strengthen planning and O&M capability in MED to improve efficiency and enhance the sustainability of the irrigation system.	8/98	8/07
The Second National Drainage Project	P045499	-	50.0 (IBRD)	The proposed project is the second time slice of the Government's National Drainage Program of which the first phase (consisting of about 0.7 million feddans of subsurface drainage) was completed under the World Bank financed National Drainage Project with cofinancing from KfW and the Netherlands. The project's main objectives are: i) to increase the agricultural productivity of about 0.8 million feddans of irrigated land by improving drainage conditions through evacuation of excess irrigation water with subsurface drains into existing open drains; and ii) to avoid yield and production losses on this land, which would result if water-logging and soil salinity problems were to persist. Other project objectives include building capacity in the Egyptian Public Authority for Drainage Projects (EPADP) through institutional support, technical assistance and training activities provided under bilateral donors' assistance. In addition, the project would assist in identifying and addressing the environmental issues resulting from the discharge of untreated raw industrial and domestic waste into a few open drains in the project areas.	6/00	6/08
Egypt Integrated Irrigation Improvement and Management Project	P073977	-	120.0 (IBRD)	The overall project objective is to assist the Borrower in improving the management of irrigation and drainage in the Project area to increase the efficiency of irrigated agriculture water use and services (expected to have positive impacts on water distribution quantity, quality, equity and timeliness).	5/05	3/14
West Delta Water Conservation and Irrigation Rehabilitation Project	P087970	-	145.0	The overall project objective is to assist the Borrower in improving the livelihood and increasing the income of people in the West Delta regions through: (i) mitigating further environmental degradation caused by excessive drawn-down of the groundwater resources; and (ii) establishing a framework for financial sustainability of irrigation infrastructure in the use of water resources.	6/07	6/11

Note: Shaded projects are those whose implementation periods were overlapping with the National Schistosomiasis Control Project.

Annex D. Project Costs and Financing and Other External Sources of Program Financing

Table D 1: Planned versus Actual Use of IDA Financing by Disbursement Category

(in millions of SDRs)

Disbursement Category	Initial Allocation	Revised Allocation By Amendment of DCA	Actual Utilization	Actual Utilization as Share of Initial Allocation (%)	Actual Utilization as Share of Revised Allocation (%)
(1) Equipment (including operation vehicles) and materials	6.57	6.93	6.93	106%	100%
(2) Drugs	8.03	8.03	8.57	107%	107%
(3) Pesticides	2.19	0.59	0.59	27%	100%
(4) Consultants' services (including services for preparation of environmental control measured) and training	0.73	0.67	0.15	21%	23%
(5) Unallocated	2.08	-	-0.02		
Total/Average	19.60	16.22	16.22	83%	100%
Total US\$ equivalent	27.48		21.82		
Amount cancelled: 3.38 million SDRs, or 17% of original credit amount					

Source: World Bank Project Database, March 13, 2008

Table D 2: Planned versus Actual Financing

(US\$ million)

Financier	Planned	Actual	Actual/Planned
Government	5.99	3.12	52%
Cofinancier *	6.00	0	-
Cofinancier*	4.42	0	-
IDA	26.84	21.82	81%
Total	43.25	24.94	58%

Sources: Planned (World Bank, 1992); Actual IDA (World Bank Project Portal, March 13, 2008); Government's actual contribution (Total actual cost less actual IDA financing).

* Both the Netherlands and Denmark expressed an interest in cofinancing during project design. However, the project design documents do not specify which potential cofinancier was expected to commit which amount. A review of project files provided no further information.

Table D 3: External Assistance to Schistosomiasis Control: Disbursements and World Bank Share

Year	WB (US\$21.8 m) (actual disbursements)	AfDB Bil I (US\$9.5 m) (estimated disbursements)	AfDB Bil II (US\$9.5 m) (estimated disbursements)	AfDB Bil III (US\$8.0 m) (actual disbursements)	USAID SRP (\$39.7) and Vaccine Research (\$6.7) (estimated disbursements)	Other	Total
80		0.86					0.86
81		1.73					1.73
82		1.73					1.73
83		1.73	0.86				2.59
84		1.73	0.86				2.59
85		1.73	0.86				2.59
86			0.86				0.86
87			0.86				0.86
88			0.86				0.86
89			0.86		4.0		4.86
90			0.87		4.0		4.87
91			0.87		4.0		4.87
92			0.87	6.1	4.0		10.97
93	0.149		0.87	0	4.0		5.02
94				0.4	4.0		4.40
95	0.041			0.7	4.0		4.74
96	5.214			0.1	4.0		9.31
97	4.498			0.1	4.0		8.60
98	2.285			0.6	3.7		6.59
99	2.183				1.7		3.88
00	1.187				1.7	0.39 (Germany)	3.28
01	2.456				1.6		4.16
02	3.803				1.7		5.50
03							
Total:	21.817	9.5	9.5	8.0	46.4	0.39	95.7
92-02	21.82	0	1.74	8.0	34.4	0.39	66.35
As % of total 92-02	33%		15%		52%	< 1%	100%

Sources: African Development Bank, February 2000; World Bank Project Disbursement Data, 2008; and Khoby et al. 1998

USAID: Support to SRP: US\$39.7 million from 88 to 98 or US\$4.0 per year

AfDB:

Bilharzia Control Project I: US\$9.5 million: 1980-85

Bilharzia Control Project II: US\$9.5 million: 1982-1993

Bilharzia Control Project III: US\$8.0 million: 1992-99

WHO?

Table D 4: Health Financing Source Estimates, 1994-95 and 2001-02

Sources	1994-1995			2001-2002		
	LE millions	Equivalent in US\$ millions	% of total	LE millions	Equivalent in US\$ millions	% of total
Ministry of Finance	2,627	774	35	6,618	1,439	29
Public Firms	381	112	5	637	138	3
Subtotal: Public	3,008	887	40	7,255	1,577	31
Social Insurance Organization	448	132	6	-	-	-
Private employers	-	-	-	1,333	290	6
Syndicates	26	8	<1			
Households	3,819	1,127	51%	14,294	3,107	62
Non-profit organizations	-	-	-	18	4	<1
Subtotal: Private	4,293	1,267	57	15,645	3,401	68
Donors (grants and loans) (net of World Bank)	215	63	3	181	39	1
Total Health Expenditures (net of World Bank)	7,516	2,217	100	23,081	5,018	100
World Bank actual disbursements: (Of which :)		<1			3	
(Health Sector Reform Project)		(0)			(0)	
(Population Project)		(0)			(1)	
(Schistosomiasis Control Project)		(0.2)			(2)	
Total Health Expenditures (including World Bank)	7,517	2,217		23,095	5,021	
World Bank's share of THE (%)		<1%			<1%	

Sources: (a) MoHP Department of Planning and Ministry of International Cooperation, as cited in Egypt National Health Accounts for 1994-95 (October 1997) and 2001-02 (November 2005) for all data except World Bank disbursements; and (b) World Bank Project Portal Database, March 2007. Exchange rates are those used in NHA documents: US\$1 = LE 4.6 (2001-02)

Table D 5: Total donor disbursements to MoHP projects for the year 2001-02

Type of Expenditure	LE (millions)	US\$ equivalent (millions)	US\$ equivalent (including WB disbursements)	WB share of disbursements (%)
Institutional strengthening	8.7	1.9	1.9	
Specialized medical centers	10.0	2.2	2.2	
Investment/medical equipments	37.0	8.0	8.0	
Family planning	7.3	1.6	2.6	
Rural health services	1.2	0.3	0.3	
Schistosomiasis	28.2	6.1	8.1	25
Specialized treatment and cancer	1.1	0.2	0.2	
Reproductive health	11.2	2.4	2.4	
Mother and child care	59.6	13.0	13.0	
Total	164.3	35.7	38.7	

Source: National Health Accounts for 2001-02, MoHP 2005.

Table D 6: Summary of External Assistance to the Health Sector

Financier	Currency	Time Period	Total Project Budget		
			Foreign Currencies (millions)	US\$ (millions)	LE (millions)
USAID (Reproductive Health)	US\$	1997-2009	73.5	73.5	338.2
USAID (Health Reform) 263/254	US\$	1997-2003	24.0	24.0	110.4
USAID (Mother and Child)	US\$	1995-2005	105.0	105.0	482.8
USAID (Bilharzia Vaccine)	US\$	1998-2003	6.7	6.7	30.8
USAID (Epi Surveillance)	US\$	2001-2005	75.6	75.6	347.7
USAID (Health Reform) 638/263	US\$	1997-2003	60.0	60.0	276.0
UNDP	US\$	2003-2007	2.0	2.0	9.3
Finland	Finnish markkaa	2001-2004	14.6	10.1	46.3
The Netherlands	Dutch guilder	1998-2003	2.7	1.5	6.9
African Development Bank	IM Unit = 5.73 M US\$	2000-2003	1.0	5.7	26.4
EU	Euro	1997-2004	110.0	127.5	586.3
Italian Cooperation	Italian Lira	2000-2003	3,140.0	139.6	642.1
Italian Cooperation Loan (Chemical poisoning)	US\$	2002-2004	2.0	2.0	9.1
Italian Cooperation Loan (Primary Health Care)	LE	2002-2005	-	-	34.1
Social Funds (Local)	US\$	1999-2005	17.4	17.4	80.0
Subtotal Net of World Bank				650.6	
World Bank (Schistosomiasis)	SDR	1993-2002	19.6	26.8	123.3
World Bank (Population)	SDR	1998-2005	11.9	17.2	79.1
World Bank (Health Sector Reform)	SDR	1998-2009	66.8	90.0	414.0
Subtotal World Bank				134.0	616.4
UNICEF (Childhood Disability)		n.a.		1.3	
AfDB (Health Sector Reform)		n.a.		16.2	
Germany (Infectious Dis. Control)		n.a.		0.5	
France (Medical research/services)		n.a.		2.2	
Japan (Medical services)		n.a.		5.5	
UK (Pyramid Road Hospital)		n.a.		1.2	
Subtotal Additional Financing/Projects from AiDA*				26.9	
Total				811.5	
WB as a share of total				17%	

Sources: MoHP Department of Planning and Ministry of International Cooperation, as cited in National Health Accounts for 2001-02, 2005; World Bank Project database; and AiDA (Accessible Information on Development Activities) (www.aida.developmentgateway.org/aida)

Note: Additional financing/projects drawn from AiDA, include those \geq US\$0.5 million, and reported to be completed (with the assumption that their timeframes overlapped with the year 2001-02, the focus of the NHA exercise, and the closing of the Bank-financed Schistosomiasis project).

n.a.: project dates not available, but project reported as having been completed in AiDA.

Annex E. National Schistosomiasis Control Project: Planned vs. Actual Support

Planned Components/Activities	Implemented?	Comments
Part A. National Schistosomiasis Control Program (NSCP)		
A.1: Expansion of the NSCP into the Nile Delta	Yes	NSCP is effectively established throughout Egypt.
<i>To five governorates of the Eastern and Western areas of the Nile Delta: Dakahlia, Sharkia, Qualubia, Beheira and Rural Alexandria</i>	Yes	Program extended to these five governorates and, in addition, to the newly reclaimed land areas: (i) the Al Salam project (which brings Nile water to the Sinai desert); and (ii) Toshka (Western Desert) near Aswan Lake
<i>Population of areas: 17 million</i>	Yes	An additional 17 million people were covered with the program extension to these 5 governorates, plus the new populations of the Al Salam and Toshka projects.
Provision of <i>equipment</i> (microscopes, laboratory glassware, minor items of equipment, vehicles) (US\$ 1.9 million)	Yes	(see quantification below)
Provision of <i>supplies</i> (laboratory supplies, drugs and molluscicides) over the life of the credit (up to US\$18.1 million)	Yes	
Retraining		
• 1,800 laboratory technicians to use modern, cost-effective, diagnostic techniques	Yes	
• Physicians employed by the program (to orient them to new techniques/technology)	Yes	
Technical assistance	Partially	There was a resistance to the use of technical assistance.
A.2: Consolidation and Modernization of Existing Control Activities		
<i>Modernize activities of projects implemented earlier in all (21 governorates) in Middle and Upper Egypt and the Suez Canal Region – essentially to modify the control programs to exploit fully the new technology: a safe, effective drug which can be administered in a single dose.</i>	Yes	All 21 governorates were covered under this component.
Rehabilitation (refurbishment and upgrading of existing facilities)	Yes	Equipment upgrading.
Replacement of defective microscopes and upgrading of laboratory equipment	Yes	
Provision of diagnostic materials	Yes	(see quantification below)
Provision of drugs	Yes	(see quantification below)
Provision of vehicles	Yes	(see quantification below)
Retraining :	Yes	
• Laboratory technicians in modern diagnostic methods	Yes	
• Physicians (orientation)	Yes	
Inputs provided by the project in support of A.1 and A.2 combined:		
Goods	Yes: <ul style="list-style-type: none"> 110 million tablets and 2.3 million suspension bottles of Praziquantel (US\$10.2 million) (manufactured locally from imported, bulk technical materials) 60 tons of Niclosamide 	A 3 rd AfDB financed the purchase of commodities and equipment for four governorates in the Nile Delta, as follows: <ul style="list-style-type: none"> Praziquantel (9 million tablets and 500,000 bottles suspension); 125 tons of niclosamide; 60 vehicles, 69 motorcycles, 720 bicycles; chemotherapy and snail control equipment for 500 RNUs and 190 SCUs; and

Planned Components/Activities	Implemented?	Comments
	(US\$0.7 million) <ul style="list-style-type: none"> • Medical and laboratory equipment (US\$2.6 million) • Vehicles: 210 pick-ups, 20 minibuses and 3 four-wheel drives, 350 motorcycles, 4,000 bicycles (US\$3.5 million) • Information technology equipment (US\$2.8 million) • Office equipment and family folders for health facilities (US\$1.9 million) 	<ul style="list-style-type: none"> • training of 1,429 health care personnel and 849 snail control personnel. (Source, AfDB 2000) <p>However, the quantity of medical equipment and disposable products were not sufficient for the needs of the units, especially during mass campaigns. Computers were only made available toward the end of the project for 11 governorates which utilize the computers for the “family Medicine Systems” that record full details of patients’ health, including schisto examinations. Health units did not receive computers and still record data and send it to MoHP manually. Health units also report a lack of essential equipment (microscopes) and supplies. (PEMA)</p> <p>Health facility staff and patients interviewed noted that drug not always available at the health units, thus patients have to buy it from pharmacies at higher cost. MoPH stated that drug is distributed according to: prevalence rates, treatment strategy; demographic changes and surveys that determine hot spots.</p> <p>Microscopes provided have become too old. MoHP staff noted that some kept new microscopes in the warehouse and did not use them.</p>
Recruitment	Yes	Under the auspices of the project an assessment of staffing requirements for program implementation was undertaken on which basis recruitment of staff was undertaken so that all rural health units would have at least 1 physician and 1 lab technician and all health districts a physician with special qualification or experience in public health would be in place to manage and supervise the program locally.
Training	Yes	<ul style="list-style-type: none"> • Training for all physicians and laboratory technicians on qualitative and quantitative stool and urine examination techniques. All health service providers received training in mass chemotherapy. This training was provided to all new employees of health facilities and to existing employees through refresher courses. • Training of trainers was also undertaken to build capacity for decentralized training and program oversight capacity. • Snail control training on snail sampling, snail identification, mapping of canals, snail infection and application of molluscicides. <p>The PEMA evaluation found that there was no regular schedule for training courses and no criteria for selecting trainees and training subjects.</p>
Part B. Endemic Diseases Control Department: Strategic Planning and Program Modernization		
B.1: Strengthening of EDCD Management Capacity		
<i>Training</i> for staff of the EDCD in modern methods of policy analysis and management	Partially	Very limited training provided.
<i>Consultancy services</i> to assist staff in:	Not implemented.	
<ul style="list-style-type: none"> • Accounting and budgeting – a management-oriented accounting system to supplement existing systems which stress control of physical inputs 		

Planned Components/Activities	Implemented?	Comments
<ul style="list-style-type: none"> Developing studies of operational efficiency and program effectiveness 	Not implemented.	
Capacity development in strategic planning		
<ul style="list-style-type: none"> Central level 	Not implemented.	Management training courses for middle management; consultancy to develop decision support systems to reduce manual data analysis and facilitate decision-making (on the basis of health facility data); provision of computer hardware and software, communication networks/e-mail and office equipment for middle management; technical assistance for capacity building.
<ul style="list-style-type: none"> Governorate level – to assist EDCD in working w/ governorates to prepare annual strategic plans 	Yes	The necessary organizational structure at all levels in the governorates was created and staffed.
Improvements to the quality and accuracy of program reporting and use of reports to target chemotherapy on high-risk groups and initiation of environmental interventions in communities most likely to benefit from them	Yes	<p>Family folders and computer equipment were provided to support the comprehensive disease surveillance system.</p> <p>Procurement of GIS software (to pinpoint “hot spot” villages), computers, printers and plotters.</p> <p>The Bank supported the Minister of Health’s desire to concentrate health and technical GIS resources in one unit within the Ministry with a view to integrating surveillance activities (in line with HSRP) and developing a comprehensive surveillance system for MoHP. Thus, the following items procured under the project were transferred to MoHP’s central GIS unit (Disease Surveillance Unit in the National Information Center for Health and Population), established during project implementation: 2 lower-end work stations, scanner, digitizer, plotter, printer, ArchInfo software, ArcView software and Oracle data base.</p>
B.2: Research and Studies to Apply New Technologies		
		The planned research and studies detailed in the design document were conceived to complement those being carried out under the USAID-financed Schistosomiasis Research Project (SRP). While the project description includes research and studies on screening methods, intervention strategies, snail control and innovative activities, the project cost tables only provided for the innovative interventions.
<ul style="list-style-type: none"> Development and implementation of <i>a more refined disease control strategy</i> 	Yes	<p>Screening, treatment and snail control strategies refined and implemented during the life of the project, but not always on the basis of studies.</p> <p>Other research carried out, but not financed under the project: study of use of Praziquantel suspension for the treatment of children; an epidemiological survey for the prevalence of schistosomiasis in the North and South Sinai governorates; developing surveillance systems for schistosomiasis to improve monitoring and reporting procedures in endemic areas; use of GIS as a tool in schistosomiasis control; field application of praziquantel suspension; progress reporting for NSCP in Egypt.</p>
<ul style="list-style-type: none"> Screening methods (for improved sensitivity of screening technology and cost savings) Evaluation of pilots: <ul style="list-style-type: none"> Evaluate the feasibility of using simple dip sticks to test for the presence of blood in the urine (dipstick could be manufactured locally, market about 40 million items a year in Egypt) 	Yes, with USAID financing.	Studies carried out, but financed by USAID-financed SRP, not the Bank-financed project.

Planned Components/Activities	Implemented?	Comments
<ul style="list-style-type: none"> ○ Evaluate the feasibility of using paper or nitrocellulose filters to remove ova from a standardized volume of urine under Egyptian conditions (as a method for confirming the diagnosis obtained w/ a dip-stick and for assessing the intensity of an infection) ○ Evaluate the Kato technique for diagnosis of intestinal schistosomiasis for possible introduction as the field technique for screening large groups. (Stool slide can be stored for later reexamination by supervisors). Also: explore feasibility of replacing disposable plastic lab equipment w/ locally manufactured stainless steel items for Kato technique. 		
<ul style="list-style-type: none"> • Intervention strategies <ul style="list-style-type: none"> ○ In Eastern and Western Delta regions (5 governorates) (where praziquantel/chemotherapy would initially be used in accordance w/ strategy), establish whether and at what stage of control less frequent screening and treatment could be implemented. Tradeoffs between more sensitive and more frequent screening, and on the frequency of treatment to eliminate intense infections. Also: relationships between reinfection and characteristics of individuals and communities => more efficient targeting of interventions. Tailoring of frequency and perhaps even method of screening possible. ○ Evaluate the current practice of screening and treating a rotating sample of community members, as a basis for assessing program performance and for establishing operational priorities. ○ Evaluate the possibility of following up treatment of patients after one year, rather than the present period of 3 months 	Studies not carried out.	
<ul style="list-style-type: none"> • Snail control (five governorates of Eastern and Western Delta regions w/ 168,700 kms of canals and drains that may be infected – molluscicides not technically feasible or affordable). <ul style="list-style-type: none"> ○ Development of a focused strategy of malacological surveillance and intervention, ensuring that resources are concentrated on high-transmission villages and hamlets, as indicated by local infection and reinfection rates in humans rather than on the existence of snails. Mapping patterns of infection/reinfection and establishment of cut-off values for snail control to be defined on the basis of epi and operational studies. Problem villages/hamlets: w/ initial prevalence rate among school children > 50%, or prevalence rate after 3 years of screening/treatment > 15%. Reliance on area-wide snail surveys to be reduced or discontinued. More sensitive snail sampling where intense transmission is occurring. ○ After first 3 years: feasibility, effectiveness and cost of focal mollusciciding would be re-evaluated, concentrated on the reduction of incidence and reinfection rates in treated villages and research results from the Egyptian Schistosomiasis Research Project (USAID- 	Studies not carried out.	

Planned Components/Activities	Implemented?	Comments
financed) w/ six main goals: develop a vaccine; improve diagnostic techniques, strengthen field epidemiology, conduct op research, study social and economic consequences of the disease, and study of the biology of the snail. (Headed by DG of the EDCD).		
<ul style="list-style-type: none"> • <i>Innovative Interventions (US\$350,000 earmarked)</i> <ul style="list-style-type: none"> ○ Design and evaluation of innovative intervention activities for improving sanitation and domestic water supplies in communities with high transmission rates (e.g., construction of public laundries and showers, community facilities for disposal of waste water and excreta, strengthened health education for schools and communities). ○ Create a multi-disciplinary task force w/in a year of approval of the credit to prepare an action plan for sanitation and health education components. 	Not carried out.	Internal Bank reporting noted some design and evaluation of proposals for improving domestic water supply and waste water disposal and strengthening health education and some collaboration with Ministry of Agriculture. It is also noted, however that construction of public laundries was never undertaken and there is no record of the creation of a multi-disciplinary task force or the preparation of an action plan for sanitation and health education components.
Report annually on findings of operational research	Not systematically reported.	

Annex F. Outputs and Outcomes by Objective

Project Objectives/ <i>Key Performance Indicators</i>	Baseline Data (sources indicated)	End-of-Project Target (cited in PAD)	Outcome	Comments/ Proxy Indicators
Long-term goal: improve MoH policy-making, planning and management to enable NSCP to control schisto using only national resources				
1. Expand the coverage and improve the operation of the NSCP (DCA)				
a Expand the coverage of the NSCP to the Delta : Substantially achieved				
Increase by 17 million the (Delta) population served by the NSCP	15 million people	32 million people	Substantially achieved. As of the end of 2002, NSCP covered the entire rural population of the Delta (about 35 million).	
Reduce the prevalence and intensity of infection to a level that is unlikely to result in disease	More than 35 percent prevalence of infection of the population (PAD) 1992 baseline: (MoHP/EDCD)	Less than 10 percent Prevalence of infection can be expected to decline by two-thirds during the first 3 years	Target exceeded. The prevalence of <i>Schisto Mansoni</i> in Lower Egypt (Delta) declined from a level of 14.8 percent in 1993 (the year of project effectiveness) to 2.7 percent in 2002 (the year of project closing) and continued to decline in the ensuing years, reaching a level of 1.5 percent in 2006. (MoHP/EDCD) 2002-2006 data show that the program continues to be successful after the close of the project in further reducing prevalence rates.	The 35 percent baseline for 1992 appears to be overstated. According to MoHP/EDCD data, prevalence of <i>S. Mansoni</i> in Lower Egypt was 16.4 percent in 1988 and 14.8 percent in 1993.
			Intensity of infections has declined. Schisto morbidity is decreasing. The clinical manifestation of the disease has nearly disappeared.	
			Project period also witnessed an expansion to newly reclaimed lands: (a) the Al Salam project in Suez and Sinai, which brings Nile water to the Sinai desert to irrigate 620,000 feddans to which 3 million migrants primarily from the Delta region are expected to move; and (b) the Toshka project near Aswan Lake in Upper Egypt, where the irrigation of 540,000 feddans is expected to attract an estimated 6 million immigrants. EDCD program activities in these areas include the supervision of health staff, the systematic screening of incoming settlers, and the surveying of new canals for snails.	
			EDCD surveys reveal that no transmission has yet occurred in these newly reclaimed lands.	
b Improve the operations of the NSCP in the 21 governorates in Middle and Upper Egypt and in the Suez Canal region in which it is already operating (assist the EDCD in institutionalizing improvements) (PAD)				
Adopt modern diagnostic technologies			Achieved (see below). The adoption of modern diagnostic technologies was facilitated by the replacement of defective	

Project Objectives/ Key Performance Indicators	Baseline Data (sources indicated)	End-of-Project Target (cited in PAD)	Outcome	Comments/ Proxy Indicators
			microscopes, upgrading of laboratory equipment and diagnostic materials and retraining of physicians and laboratory technicians.	
Maintain control of the prevalence of schistosomiasis			Achieved. Coverage has been maintained for the 15 million population in 21 governorates. The prevalence of <i>Schisto. Haematobium</i> in Upper Egypt declined from a level of 6.6 percent in 1993 (the year of project effectiveness) to 1.9 percent in 2002 (the year of project closing) and continued to decline in the ensuing years, reaching a level of 1.2 percent in 2006. (MoHP/EDCD)	
c. inputs and activities common to expansion (Delta) and improvement (Middle and Upper Egypt and Suez Canal Region)				
PHC facilities to carry out key activities		Screen all school children twice/year and treat those in high prevalence areas	Achieved. Starting in 1997 when the MoHP adopted a policy of mass chemotherapy in schools with high prevalence, a total of 22.4 million school children in 11 governorates were treated/retreated with Praziquantel through 2006. Over time as prevalence declined both the number of governorates and the number of school children receiving mass chemotherapy declined sharply. Additionally, the frequency of screening declined from twice to once a year.	
		Evaluate all outpatients who present themselves to health facilities and are suspected of being infected	Achieved. Screening of patients and treating positive cases is routinely carried out at the primary health care level by a trained technician, thanks to the training, equipment and materials provided under the project. Nevertheless, the capacity and quality of these staff should be assessed.	
		Examine 10 percent of the population of the catchment area of each health facility each month.	Achieved. Screening of villages is routinely carried out by a health facility-based technician, but with less frequency than once a month (1-2 times/year). Mass chemotherapy was delivered to all residents of villages identified as "hot spots" (having high prevalence rates). From 1997 through to 2006 a total of 12.7 million villagers were treated/retreated. As is the case for the school children, both the number of villages and the number of villagers declined over time, as prevalence rates were reduced.	
			Snail control staff, based in villages and attached to local health units, sample canals routinely and focal mollusciciding is applied to canals which qualify, i.e.: (i) there are infected snails found in regular surveying; and/or (ii) village qualifies for mass chemotherapy. Focal mollusciciding means the treatment of a reduced number of water courses and reduced length of water courses, resulting in a decrease in the amount of Niclosamide used.	

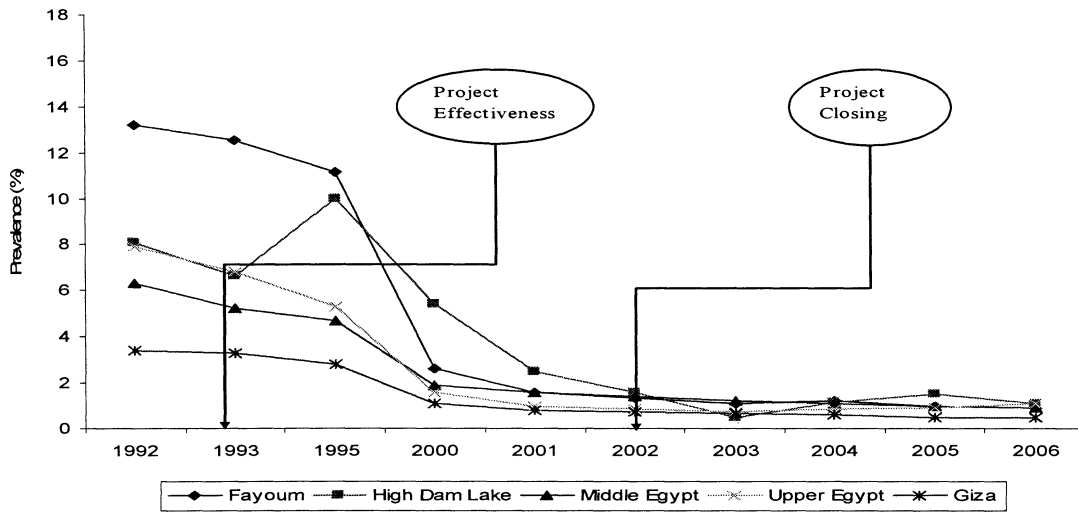
Project Objectives/ Key Performance Indicators	Baseline Data (sources indicated)	End-of-Project Target (cited in PAD)	Outcome	Comments/ Proxy Indicators
2. Strengthen the capacity of EDCC to design, evaluate and adjust the national control strategy for the control of schistosomiasis (DCA) Initiate a systematic attack on problems of program design, staff motivation and management in the health sector – a process which the Bank Group might further support through assistance to future operations/initiate a program of cooperation that focuses on strengthening the design and management of health programs. (PAD)/				
Technical capacity of EDCC central			<p>Modestly achieved.</p> <p>All components of NSCP have been successfully integrated under one national program, coordinated by EDCC and implemented through the regular health care system. The program has been largely implemented through regular health services, mainly rural health units in 170 districts. Quality is assured by training, improved diagnostic and surveillance methods and joint planning by central, governorate staff.</p> <p>Technical capacity for policy formulation and program management remains insufficient.</p> <p>Biannual planning seminars (one for Lower Egypt governorates, the other for Upper Egypt governorates) have contributed to improved strategic planning capacity.</p> <p>EDCC central level is still lacking in terms of staffing, training and modern office equipment (computers, internet, and internal network facilities). Training in modern methods of policy analysis and management was limited (a few study tours and conferences) as was training of staff in epidemiology.</p> <p>Central level capacity for strategic management and improved decision making was partially strengthened where new control strategies were developed and consistently implemented.</p> <p>EDCC was successful through its various inter-ministerial committees to ensure that the national program for sanitation and sewer construction give priority to "hot spot" areas; that canals in new land reclamation areas are lined with concrete to prevent establishment of snail colonies; that new villages have adequate water supply and sanitation to stop the transmission; and that immigrants to newly reclaimed areas are systematically screened and treated for Schistosomiasis and that local health staff are supervised by EDCC.</p>	
Surveillance and control			Modestly achieved. Still a need for a more focused approach to surveillance	
Strengthened accounting and budgeting			Not achieved. A management-oriented accounting system was not developed and accounting and budgeting functions were not strengthened. Government did not draw on resources for technical assistance available under the project to this end.	

Project Objectives/ Key Performance Indicators	Baseline Data (sources indicated)	End-of-Project Target (cited in PAD)	Outcome	Comments/ Proxy Indicators
Further decentralization of program planning and control			<p>Modestly achieved. The necessary organizational structure at all levels in the governorates was created and staffed. The Director of the Tropical Disease Department coordinates the work of four units: Bilharzia Control Unit, Snail Control Unit, Vector Control Unit, and Malaria Control Unit. A chief lab technician at the governorate level regularly checks the quality of the lab technicians. Overall, <i>governorate level capacity</i> is adequate to implement the treatment and mollusciciding strategies, collect routine surveillance data and report regularly to central level. On the other hand, <i>governorate-level health education capacity</i> is limited. While <i>district-level capacity</i> is less developed, the <i>capacity of rural health units</i> is adequate.</p> <p>Planning remains overly centralized and there is room for a defined group of decisions that can be taken at the governorate level.</p> <p>PEMA: Allocations of human resources, drugs and equipment were supposed to be determined at the level of the governorate, based on their needs, but field work pointed to a still high centralization of the NSCP system. (Source: PEMA)</p> <p>Ministry officials state that governorates receive drugs according to their respective prevalence rates, but health units note that they receive a quota of medicine regardless of prevalence of the disease in their area.</p>	
Strengthened program efficiency and effectiveness informed by studies			<p>Most of the operational research objectives, pursued primarily thru the SRP were not satisfactorily met. Nevertheless apart from the practical results of SRP studies, the exposure of EDCD staff in applied research has strongly contributed to more evidence-based policies and strategies. Several research groups associated with SRP have shown capacity and interest for operational field research and developed good links with EDCD staff.</p>	
		<p>Improved screening methods</p> <ul style="list-style-type: none"> • Sensitivity of screening technology <ul style="list-style-type: none"> ○ Urine testing (simple dip sticks and paper or nitrocellulose filters to confirm dip-stick diagnosis and assessing infection intensity) ○ Evaluate Kato technique for intestinal schistosomiasis diagnosis and replacing plastic with locally manufactured stainless 	<p>Most of the studies on screening methods were carried out with USAID support, and have extended qualitative screening techniques (identification of positive or negative cases) to include also quantitative techniques (enabling the determination of the morbidity indicator and intensity of infections).</p> <p>Testing and treatment methods were viewed by most interviewed as too ambitious and unrealistic and actual practices differed from one governorate to the other, a function of lab technician availability. Thresholds of prevalence rates for mass treatment differed from one governorate to another. None of the governorates were able to apply the testing and sampling strategy as planned (PEMA). Some patients interviewed said that they were not examined, but prescribed the drug according to their symptoms.</p> <p>Establishment of a system of sample testing and treatment was</p>	

Project Objectives/ Key Performance Indicators	Baseline Data (sources indicated)	End-of-Project Target (cited in PAD)	Outcome	Comments/ Proxy Indicators
		steel lab equipment <ul style="list-style-type: none"> • Cost savings 	highly appreciated by field-based respondents, but goals have been set far beyond available capacity.	
		Improved treatment intervention strategies: <ul style="list-style-type: none"> • Whether/at what stage less frequent screening and treatment could be implemented • Evaluate screening and treating a rotating sample of community members as basis for assessing program performance and establishing operational priorities • Evaluate possibility of following up treatment of patients after one year instead of 3 months 	Not achieved. These studies were not carried out.	
		Improved snail control <ul style="list-style-type: none"> • More focused surveillance and intervention, focusing on high-transmission areas, indicated by local infection rates in humans vs. existence of snails. • Reevaluate focal mollusciciding, concentrated on reduction of incidence and reinfection rates 	Studies not carried out. Change in control strategies resulted in decreased use of Niclosamide (and cost savings)	
		Operating costs and management demands of the program significantly reduced (possible 15 percent in cost reductions)	Significant reductions in the price of commodities and in the quantities used.	
		Enable NSCP to control schisto using only national resources	GoE currently finances operations independently but there are some critical elements that are not adequately supported (operations research, capacity building, and renewal/upgrading of equipment, vehicles, especially at the governorate level.	

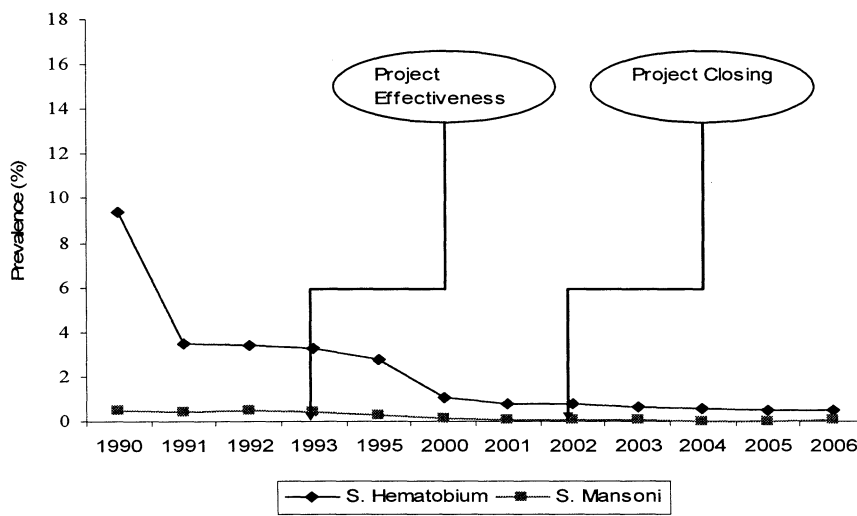
Annex G. Prevalence Data

Figure G 1: Prevalence of Schistosomiasis (S. Hematobium) in Upper Egypt, 1990-2006



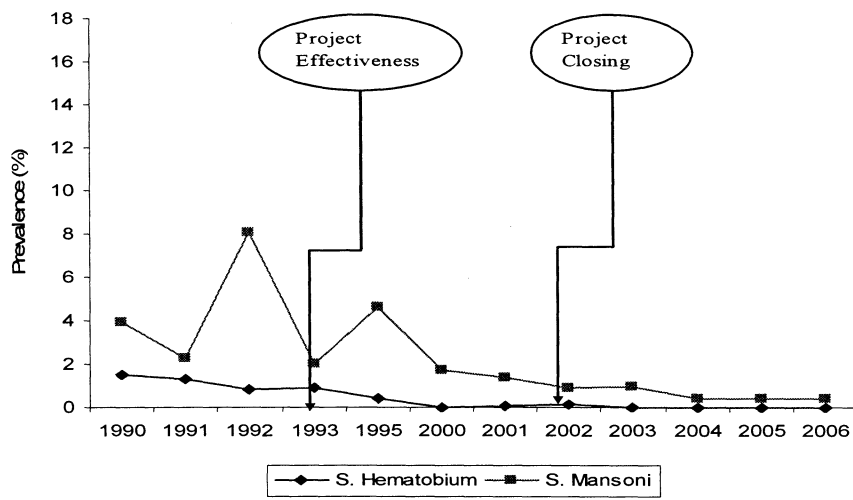
Source: MoHP, NSCP/EDCD Data, 2007

Figure G 2: Prevalence of Schistosomiasis in Giza, 1990-2006



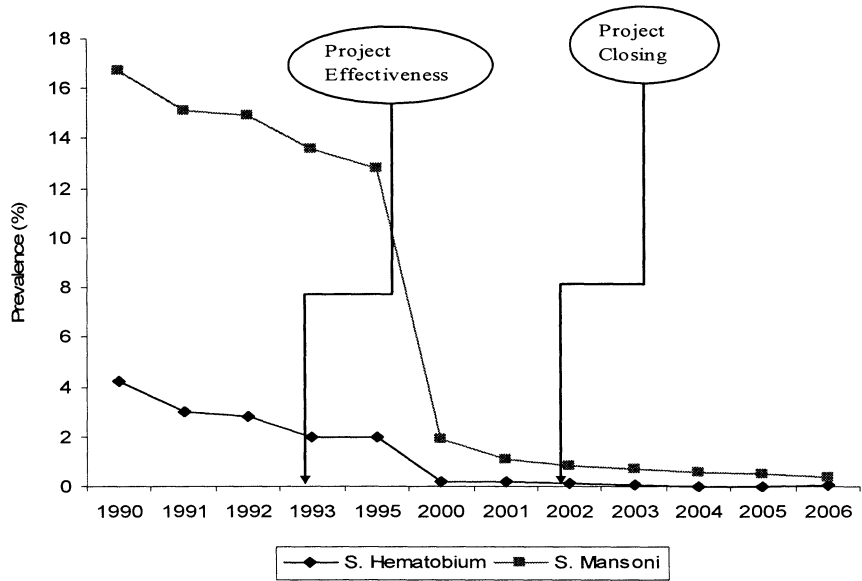
Source: MoHP, NSCP/EDCD Data, 2007

Figure G 3: Prevalence of Schistosomiasis in W. Nubariya, 1990-2006



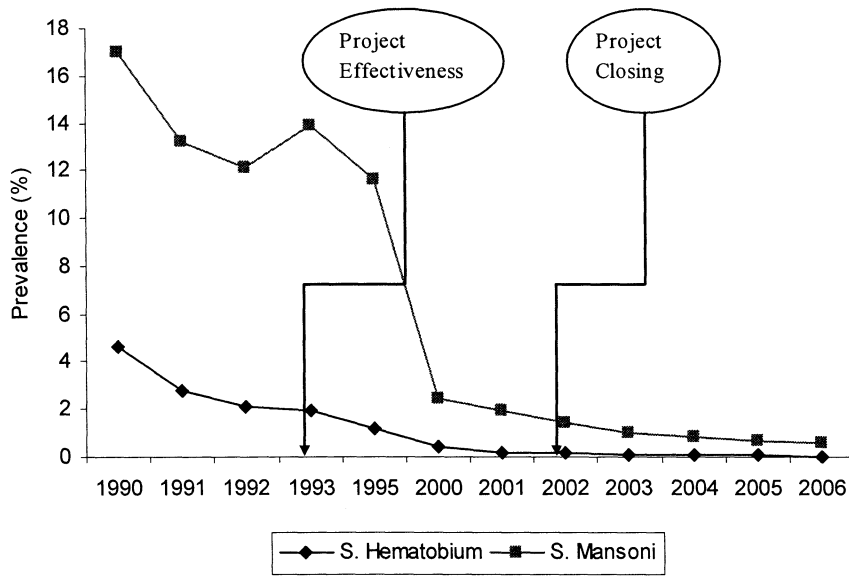
Source: MoHP, NSCP/EDCD Data, 2007

Figure G 4: Prevalence of Schistosomiasis in the Suez Canal Area, 1990-2006



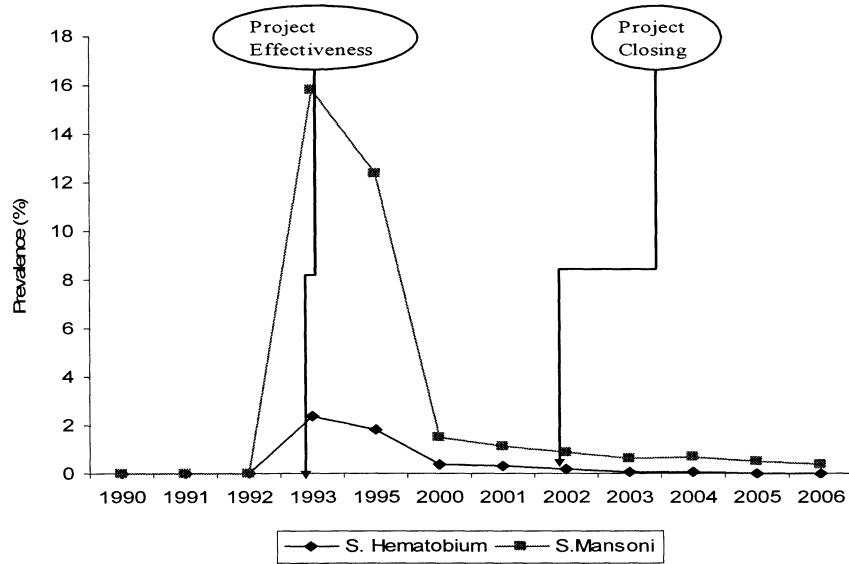
Source: MoHP, NSCP/EDCD Data, 2007

Figure G 5: Prevalence of Schistosomiasis in the Middle Delta Area, 1990-2006

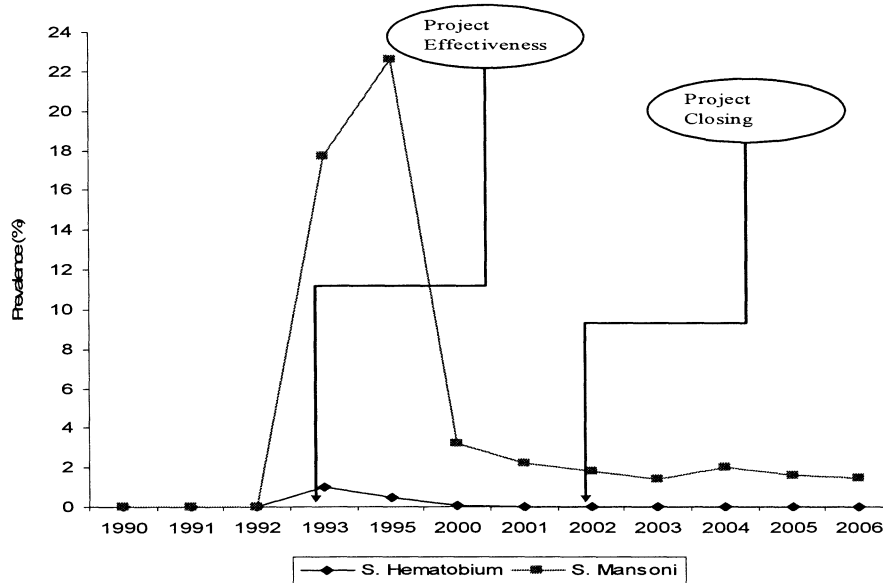


Source: MoHP, NSCP/EDCD Data, 2007

Figure G 6: Prevalence of Schistosomiasis in the East Delta Area, 1990-2006



Source: MoHP, NSCP/EDCD Data, 2007

Figure G 7: Prevalence of Schistosomiasis in the West Delta Area, 1990-2006

Source: MoHP, NSCP/EDCD Data, 2007

Table G 1: Post Project Trends on S. Haematobium in Upper Egypt, 2002-2006

Governorate	Outpatients		Pop. Samples		School Children		Total	
	2002	2006	2002	2006	2002	2006	2002	2006
Giza	0.88	0.56	0.87	0.5	0.58	0.36	0.76	0.5
Fayum	1.67	0.9	1.30	0.85	1.20	0.84	1.34	0.9
Beni Suef	1.77	0.71	1.80	0.23	1.18	0.44	1.13	0.5
Minya	1.84	1.1	1.32	0.89	1.79	1.44	1.58	1.1
Assuit	1.37	0.74	1.10	0.59	1.16	0.70	1.20	0.7
Sohag	1.17	1.42	0.72	0.96	0.78	1.05	0.85	1.1
Qena	0.94	2.57	0.75	1.23	0.74	1.41	0.77	1.4
Luxor	1.60	0.96	1.63	1.71	1.72	1.2	1.66	1.0
Aswan	0.88	0.89	0.35	0.24	0.50	0.64	0.45	0.5
Total	1.34	0.93	0.99	0.83	1.10	0.97	1.11	0.9

Source: MoHP, NSCP/EDCD Data, 2007

Table G 2: Post Project Trends on S. Mansoni Prevalence in Lower Egypt, 2002-2006

Governorate	Outpatients		Pop. Samples		School Children		Total	
	2002	2006	2002	2006	2002	2006	2002	2006
Rural Alexandria	1.01	0.75	-	0.54	-	0.30	1.01	0.7
Behera	2.41	1.92	1.83	0.96	1.19	1.56	1.89	1.6
Menufiya	0.99	0.44	0.74	0.20	0.49	0.13	0.71	0.2
Gharbia	2.25	0.68	1.21	0.32	0.92	0.13	1.42	0.4
Kafr El-Shiekh	3.00	1.61	1.58	0.96	1.39	1.39	2.12	1.3
Sharkiya	1.22	0.32	1.06	0.42	0.25	0.12	0.81	0.3
Dakahliya	1.32	0.49	1.03	0.43	0.21	0.15	0.92	0.4
Qalubiya	1.19	0.70	1.20	0.53	0.71	0.34	1.03	0.9
Damietta	1.87	0.34	0.83	0.27	0.21	0.05	0.75	0.2
Ismailya	1.14	1.12	1.04	0.42	1.01	0.68	1.36	0.9
Port Said	0.62	1.11	-	1.08	-	0.28	0.62	1.0
Suez	0.69	0.25	0.24	0.02	0.10	0.07	0.49	0.2
Total	1.86	0.95	1.27	0.55	0.67	0.51	1.27	0.69

Source: MoHP, NSCP/EDCD Data, 2007

Annex H. Health Sector Reform Program

Box H.7-1: Health Sector Reform Program Principles, Objectives

Principles:

- **Universal coverage and accessibility:** provide preventive and curative services to all citizens
- **Equity:** provide health services according to needs and fees according to financial capability
- **Quality:** provide services according to quality standards and customer satisfaction
- **Efficiency:** provide services according to actual needs to citizens
- **Sustainability:** ensure continuity for the financing of health services

Objectives:

- Improve the **quality and access** to health care services, especially for the poor and under-served segments of the population
- Improve the physical **infrastructure** and functional **design** of health facilities
- Optimization of the **distribution** of the health care delivery system, taking into consideration existing health services in both public and private sectors
- Establish appropriate **service standards and guidelines** to ensure effective and safe health care services; and
- Determine the **resources** needed for upgrading the health delivery system in terms of human resources and physical infrastructure.

Strategies:

- Institutional development
- Infrastructure development
- Human resources development
- Services reform
- Financing reform
- Pharmaceutical reform

Source: MoHP, 2007

Annex I. Borrower's Comments



جمهورية مصر العربية
وزارة الصحة والسكان
مكتب الوزير

Ms. Monika Huppi
Manager Sector Evaluation Division
Independent Evaluation Group

Cairo 26th, June 2008

Dear Ms. Huppi,

Pursuant to your letter dated on 10th, June 2008 regarding the Ministry Comments on the draft Project Performance Assessment Reports of Population & National Schistosomiasis Control Projects.

Please find attached the comments.

Please, accept the assurance of my highest esteem.

Best Regards,
Dr. Emad Ezzat


Acting Chief of the Cabinet of
Minister of Health & Population
Egypt

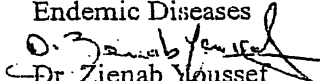
Ministry of Health & Population
Endemic Diseases Central Department

The World Bank report about evaluation of National Schistosomiasis Control Program (NSCP)

- The report for evaluation (NSCP) include that it was funded the program by loan number 2403 by 26.8 million US Dollars, Implementation started in 15/6/1993 till 30/9/2002 for extending the National Programs to include west and east Delta governorates and supporting other activities for Schistosomiasis control in governorates all over Egypt which included previously in the National Programs and the rate of expenses during this period was 83%
- This evaluation was done in November 2007 by World Bank Committee after field visits for some governorates e.g. (Alexandria – Menoufia – Menia and Qena) for monitoring the activities which supported by the program.
- Indicators and results of the evaluation confirm that there is decrease in sequence of Schistosomiasis prevalence intestinal & urinary (14.8% , 6.6%) in 1993 the starting year of the programs to (2.7%, 1.9%) in 2002 at the end of programs and it become (1.5%, 1.2%) at the end of 2006.
- The report indicate that the programs made an efforts to achieve this goals through extending to cover all governorates to include west & east Delta governorates by renovate and strengthen the control activities by providing Praziquantel for mass chemotherapy to (population and school children) and also by providing molluscicides for snail control, Lab. Equipments and training for health staff.
- In report the sharing of World Bank represents the third from which achieved in the field of Schistosomiasis control as external fund during the program and the rest was achieved from governmental investments by improving environmental sanitation in most villages.
- Six years have passed since program closing, while the lessons remain relevant, new developments pose additional challenges to their application. The full support and continued implementation of Schistosomiasis activities will need to be ensured in the new context and incentive structure embedded in Egypt's Health Sector Reform Program. The development by MoHP/EDCD with WHO assistance of a proposal in 2007, which changes the national Schistosomiasis strategy from control to eradication, requires new investments, intensified efforts and further adjustments to program strategy and organization. While incremental financing is needed to support this more aggressive strategy. The partners that have traditionally invested in the NSCP (USAID, AFDB and the World Bank).

(No Comments to be added to the report) and thanks of your support.

Director General

Dr. Mohamed Mustafa

Undersecretary for
Endemic Diseases

Dr. Zienab Yousser