



PROJECT STATUS REPORT
USAID FUNDED HEALTH PROJECTS IMPLEMENTED BY
MEDICAL SERVICE CORPORATION INTERNATIONAL
IN
LATIN AMERICA AND THE CARIBBEAN

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Since 1985, MEDICAL SERVICE CORPORATION INTERNATIONAL (MSCI) has played a significant role in addressing health problems in Central and Latin America. The activities, conducted in collaboration with USAID, have included the following areas:

- Biomedical equipment and facilities assessment, maintenance and repair;
- Health systems support - El Salvador; and
- Vector borne disease control

BIOMEDICAL EQUIPMENT AND FACILITIES ASSESSMENT, MAINTENANCE AND REPAIR

MSCI participated in an in-depth assessment of the Pan American Development Foundation Project which was designed to teach biomedical equipment technology to students from 7 Central American countries. The evaluation was conducted in 5 countries -- Panama, Dominican Republic, Honduras, Guatemala and El Salvador. Many of the recommendations made during that evaluation are currently being implemented in the El Salvador Health Systems Support Project.

EL SALVADOR

MSCI is currently implementing two major health activities in El Salvador:

- Technical Assistance to the Malaria Division of the Ministry of Health; and
- Health Systems Support Project (APSISA)

TECHNICAL ASSISTANCE IN MALARIA

Since 1987, MSCI has provided technical advisory services in the area of vector borne disease control, particularly in malaria, through a buy-in to AID's Vector Biology and Control Project (VBC). MSCI, which is implementing the VBC Project for AID, has a full time Malaria Control Advisor on assignment in El Salvador who is responsible for the design, implementation, management and evaluation of national efforts to control malaria and other vector borne diseases.

The Malaria Control Program of El Salvador has achieved remarkable success in reducing malaria from 96,000 cases in 1980 to fewer than 10,000 in 1988. As the major financial donor, USAID has contributed almost \$3 million (plus \$0.86 million from Pl 480). These contributions have been well managed and have assisted the Government of El Salvador (GOES) in developing a

stratified, integrated malaria control program that is making significant progress towards becoming sustainable, given the country's limited resources.

The GOES and USAID/El Salvador rank malaria as a high priority. The GOES' support to the program reflects its commitment both to keeping malaria at its present low level and to successfully integrating malaria control activities into the national health service program.

In addition, dengue fever (and the possible emergence of dengue hemorrhagic fever) is increasing throughout Central America -- including a recent outbreak in El Salvador. The Malaria Control Division of the MOH has responsibility for controlling this disease in El Salvador. MSCI's Malaria Control Advisor is also providing technical assistance to the dengue control operations through the development of plans for prevention and epidemic control.

At this time, USAID/El Salvador is moving to integrate the activities of the Malaria Control Advisor into the USAID sponsored Health System Support Project (APSISA). This project, which MSCI is also implementing on behalf of USAID, will ensure continued malaria control activities through 1990.

HEALTH SYSTEMS SUPPORT PROJECT

In 1986, USAID/El Salvador and the Government of El Salvador (GOES) signed an agreement to implement the Health Systems Support Project (APSISA) for a 5 year period. MSCI began the implementation and management of this activity in November 1987.

The APSISA Project is a continuation of the "Health Systems Vitalization Project" (VISISA) which was funded by USAID from 1983 to 1986. The goals and objectives of the VISISA Project were oriented towards the transfer of material resources (drugs and medical supplies), strengthening the transportation system, and the renewal and construction of MOH physical facilities. The goal was to help the MOH deal with the political, environmental and economic crisis of the country at that period and thus avoid the deterioration of health services.

The purpose of the APSISA Project is to support and strengthen the technical and administrative capacity of the MOH in its efforts to improve the access and availability of basic health care services to the underserved and unserved segments of the population. The Project seeks to develop preventive primary health care services in support of the Child Survival Program. The goals and objectives are oriented to strengthening the management structure of the MOH; to developing and utilizing the human resources; to procuring, distributing and monitoring

pharmaceuticals and supplies; and in the long term, to promoting the health sector's financial and technical self sufficiency.

The technical assistance components of the APSISA Project are:

1. Logistics Support: procurement, distribution and management of drugs, pharmaceuticals and supplies.
2. Pharmaceutical Selection, Management and Drug Quality Control.
3. Improvement in the Planning and Delivery of Basic Medical Services including Malaria Control.
4. Management Information Systems: computerization of information related to the subsystems; drug and medical supply management; maintenance management; procurement; and management and health statistics.
5. Biomedical Equipment and Facilities Maintenance.
6. Transportation, Vehicle Maintenance and Parts Warehousing.

LOGISTICS SUPPORT: Procurement, Distribution and Management of Drugs, Pharmaceuticals and Supplies.

The MSCCI Technical Advisors implementing these activities have taken a most practical and realistic approach to the development of a supply and distribution system that will ensure the availability of drugs and medical supplies to hospitals and rural health establishments.

The emphasis of the MSCCI Technical Advisors has been to provide logistical support to the MOH and to review and organize the selection, acquisition, storage and distribution of drugs and medical supplies.

PHARMACEUTICAL SELECTION, MANAGEMENT AND DRUG QUALITY CONTROL

The MSCCI Technical Advisors assigned to this component are working in collaboration with USAID in the selection, procurement, distribution and use of drugs and pharmaceuticals. Among the major activities in the first project year has been the development of an Essential Drug List and a Suppliers Guide for the procurement of drugs locally through PL 480 funds and internationally through AID. Additional activities

include training health personnel on the use of the Essential Drug List and the Therapeutic Formulary; the development of a quality assurance program and Quality Control Procedures Manual; and the development of a monitoring system for the delivery and dispensing of drugs and pharmaceuticals at the Health Centers and Posts.

MANAGEMENT INFORMATION SYSTEMS

One of the fundamental objectives of this project is to strengthen the capability of the MOH to deliver as well as to increase the availability of Primary Health Care to urban and rural populations. To that end, MSCI is involved in the development and implementation of a Management Information System (MIS) which will allow better planning and coordination of MOH activities in:

- drug and medical supply management;
- biomedical equipment and facilities management;
- procurement, storage and distribution management; and
- health statistics.

IMPROVEMENT OF THE DELIVERY OF BASIC MEDICAL SERVICES

MSCI's technical assistance in this area involves training of community health workers and the provision of health education in an effort to improve the primary health care services being delivered by workers at the Health Units and Posts.

BIOMEDICAL EQUIPMENT AND FACILITIES MAINTENANCE

The problems in this area have presented MSCI with an opportunity to make a substantive and long lasting impact on the efficiency and effectiveness of El Salvador's health system.

MSCI's Technical Advisor in this area is working closely with the Director of the MOH Biomedical Equipment Repair and Maintenance Section of the MOH. He is providing technical assistance to MOH medical and paramedical technicians and maintenance personnel at

the regional and facility level to further develop and institutionalize the biomedical equipment maintenance and repair system. He also assists the MOH General Services Office in strengthening maintenance of basic health facilities.

Some of the most important accomplishments in this past year have included:

- The installation and calibration of 46 (65%) of the 70 units of the drug Quality Control Laboratory;
- The evaluation of the preinstallation needs for the biomedical and hospital equipment acquired by the MOH;
- The inventory of biomedical and hospital equipment parts acquired by VISISA since 1985; and
- Calibration of 17 vaporizers and their distribution to various hospitals throughout the country.

Activities currently underway include the development of a preventive maintenance program of biomedical and hospital equipment for technicians and engineers. Other activities include designing a comprehensive standardization and purchasing plan reflecting revised treatment norms; current availability of equipment and spare parts; and the need for regular procurement of biomedical equipment, tools and spare parts.

MSCI's Technical Advisor is also conducting an evaluation of the water and sewage systems of the Health Units and Health Posts.

TRANSPORTATION, VEHICLE MAINTENANCE AND PARTS WAREHOUSING

The transportation objectives of APSISA are to assist and improve the quality, lower the unit costs, and increase the availability of transportation to deliver health care services. The main components of this strategy involve providing technical and management training; replacing high cost obsolete vehicles; and improving work facilities (shops, parts, warehouses, and offices). By consistently lowering transportation unit costs and increasing the GOES

operational budget, the MOH may eventually attain transportation operational budget self-sufficiency in the 1990s.

MSCI has made substantial progress in institutionalizing the transportation programs and maintenance management systems begun under VISISA and improved during APSISA.

In addition to coordinating four regional transportation centers, shops and parts warehouses, MSCI's Technical Advisor is assisting the Transportation Department in its design and implementation of the only fully functional computerized cost system within the MOH. Two other non-computerized systems for preventive maintenance programs (PMP) and parts inventory management (PIMS) are in the process of being designed and integrated into the MOH transportation budget.

AID VECTOR BIOLOGY AND CONTROL PROJECT

The Vector Biology & Control (VBC) Project, initiated by AID's Bureau of Science and Technology, Office of Health (S&T/Health) in 1985, and managed by MSCI, is entering its fourth year of operation. The Project focuses on the design, implementation, modification, and evaluation of national efforts to control vector-borne diseases. It supports ongoing and new activities in:

1. Applied field research to characterize the ecology of disease transmission and its relationship to practical control operations.
2. Training of field entomologists, malariologists and other specialists in vector-borne disease control and methods of critical assessment of intervention efficacy. Areas of emphasis include identification of the dimensions of disease problems, control approaches, and relationships between entomology and epidemiology of disease(s).
3. Exploration of social and economic factors that relate to vectors and disease transmission as they may influence implementation of control measures.

4. Establishment and maintenance of a documentation/data bank that includes a roster of consultants who are available to serve the various phases of the Project, and provides documentation and technical materials to strengthen USAID supported vector-borne disease control programs.
5. Promotion and support of control programs based on community participation, and integration of these programs into the primary health care structure and activities of host country communities.
6. Development and improvement of disease surveillance systems to achieve better stratification in order to target responses to regional problems. To achieve this response, emphasis is placed on establishing improved systems for data collection and data management, and the training of personnel to manage information systems. The adaptations of these systems to the specific needs of the host country is a central objective of this input.

MSCI is responsible for the management and implementation of the VBC Project. MSCI serves as a resource to AID by maintaining the VBC Operations Center and executing the Project's activities.

MSCI receives technical guidance and support through subcontractual arrangements with three universities:

- Harvard University, School of Public Health, Department of Tropical Public Health;
- Johns Hopkins University, School of Hygiene and Public Health, Department of Immunology and Infectious Diseases;
- Tulane University, School of Public Health and Tropical Medicine, Department of Tropical Medicine.

AID S&T/H has initiated a Participating Agency Service Agreement (PASA) with the Centers for Disease Control (CDC) to assist the VBC Project in meeting its needs for specialized technical assistance. Other organizations that work collaboratively with VBC include the World Health Organization (WHO), the Pan American Health Organization (PAHO), schools of public health and universities throughout the world, and other institutions in the United States and abroad. In addition, a consultant network of more than 875 experts has been established to provide a rapid response mechanism to requests from USAID Mission and from host countries.

During its three years of operation, VBC has carried out approximately 175 activities in the areas of field research; training; socioeconomic impact of vector-borne diseases; documentation; program promotion and support; and surveillance and dissemination in 34 countries. These activities represent the equivalent of about 35 person years of technical services for USAID Missions. The following is a synopsis of some VBC Project activities:

1. Field Research

VBC has conducted field research in malaria, onchocerciasis, schistosomiasis, American trypanosomiasis, dracunculiasis (Guinea Worm disease) and arthropod borne viruses. For example, in the field of malaria, VBC has undertaken studies on mosquito ecology and behavior; vector incrimination; taxonomy; and insecticide resistance in Ecuador, Bolivia, El Salvador, and Honduras. In West Timor (Indonesia) a pilot study in community based initiatives for malaria control (use of insecticide treated bed nets and village volunteers for diagnosis and treatment of malaria) was designed, implemented and evaluated with VBC assistance.

With regards to onchocerciasis, VBC sponsored a field activity, at the request of the UNDP/WHO/FAO Onchocerciasis Control Programme (OCP), that surveyed baseline non-target organisms in rivers in the OCP extension zone in Mali and Guinea prior to the initiation of larviciding activities in these two countries. To provide background data for an area where ivermectin field trials are planned, VBC conducted a study on Onchocerca infection rates in Liberian black flies. At the request of USAID and the host country ministry of health, VBC has also assessed the blindness rate and prevalence of onchocerciasis in the forest/savannah ecotone of Ivory Coast.

In the field of schistosomiasis research, VBC and 20 consultants designed a ten year schistosomiasis research program in Egypt. This program focuses on immunology, chemotherapy, vaccine development, epidemiology, socio-economic aspects, and operational research.

In the area of dracunculiasis (Guinea Worm disease) research, the VBC Project, in collaboration with the Centers for Disease Control (CDC), conducted epidemiological surveys, and developed national control plans for this disease in Burkina Faso and Cameroon. In Honduras, both community participation and the effect of a novel intervention (insecticide based paint) were studied for their possible use in the control of Chagas' disease vectors. The VBC Project is currently investigating the potential for collaboration between Peace Corps volunteers, the National Institutes for Health and VBC for improved control of lymphatic filariasis in Thailand.

2. Training

VBC has conducted training programs on medical entomology, alternative control measures, improvement of operational research in Bolivia, Kenya, Burma, Sri Lanka, Pakistan, Thailand, Papua New Guinea, and Nepal. On a more regional theme, VBC, PAHO and representatives from 23 Caribbean countries conducted a workshop on the prevention of Aedes-borne virus epidemics. VBC has also participated with PAHO and CDC in the training of Peace Corps volunteers in the Eastern Caribbean Basin.

In addition, VBC assisted CDC in preparing a training film on surveillance, and the public health importance and control of Aedes albopictus. In collaboration with CDC, VBC has also conducted a training course on arthropod-borne viruses in Nepal. Follow on activities will ultimately lead to the development of a diagnostic laboratory and greater capability in arbovirology in that country.

In conjunction with PAHO and WHO, VBC presented a workshop in Guatemala on detection of insecticide resistance in mosquitoes to participants from six Central American countries. VBC professional staff members have served as participants in WHO sponsored workshops on control of riceland mosquitoes, development of microbial insecticides, and entomological manpower development in the Philippines, India, and the Southeast Asian region, respectively.

3. Socioeconomic Factors

VBC conducted a preliminary survey in Chad to determine the potential impact of AID sponsored pilot irrigation projects on schistosomiasis and other vector-borne diseases. In Nigeria VBC helped to develop a protocol for the assessment of the economic impact (effects on agricultural output) of this disease. The VBC designed Schistosomiasis Research Project in Egypt has a major section devoted to the elucidation of socioeconomic determinants of disease transmission.

4. Documentation

The Vector Control Information Center (VCIC), established by the VBC Project houses a collection of over 20,000 references on vector-borne diseases from current journals and computerized bibliographic sources, "fugitive" material, and VBC Project activity reports. VCIC places special emphasis on obtaining "fugitive" literature, including AID and other agency documents; reports on country projects; evaluations; and other background documents on countries where vector-borne diseases are endemic

and where control measures are employed. VCIC also has references on the use of primary health care services, health education, and community participation.

The VCIC makes use of these resources by providing information on vectors, vector-borne disease and control options to USAID missions, host country ministries of health, project consultant teams, collaborating agencies and to AID central divisions and bureaus. In collaboration with the WASH Project, VBC is active in the development of a Guinea Worm Information Center. Finally, VCIC houses the VBC activity reports. These are available to collaborating agencies and institutions active in research and control activities in specific countries.

5. Program Promotion, Evaluation and Support

VBC promotes, supports and evaluates AID vector-borne disease programs in several countries. For example, VBC is involved in activities that promote and support primary health care services and community participation in malaria control. In addition, VBC has conducted evaluations or informal reviews of existing AID sponsored vector-borne disease programs in countries such as Ecuador, El Salvador, Guatemala, Belize, the Dominican Republic and Haiti.

As a result of these evaluations, VBC has received requests from USAID Missions in Haiti and Pakistan to assist them in drafting amendments to the existing AID activities in their countries. In support of malaria control projects in Honduras and Pakistan, VBC has provided in-depth environmental assessments of proposed interventions. Environmental guidelines for USAID mission officers have also been prepared by VBC.

6. Surveillance and Information Systems

VBC is involved in the design and implementation of information systems. Presently, VBC is assisting Ecuador and Nepal in designing and implementing computerized databases for management of their national malaria control programs. The design of these new systems is intended to facilitate data collection and processing, surveillance, stratification, decision-making, and rapid response. Within the next year, VBC will assist several USAID missions in developing and implementing similar systems in other countries.

In addition to the activities presented above, the VBC Project is involved in preparing, writing, and reviewing strategies and papers on vector-borne diseases and control methods. For example, VBC assisted AID in the preparation and review of the new Agency Strategy which deals with the control of vector-borne diseases. At the request of the Asia/Near East Bureau, VBC is assisting in the drafting of a new regional

strategy for the management of vector-borne diseases. This strategy presents the individual Missions with options, ranging from essential technical studies, and improved surveillance, to the implementation of traditional bilateral disease control programs.

In addition, VBC has prepared ten background papers on the major vector-borne diseases. These papers address current epidemiological situations, present control measures and their constraints, and highlight promising areas for future AID assistance in developing and implementing improved control interventions. In response to a request from the Office of Health, VBC is preparing a handbook for Mission field officers to facilitate preparation of environmental evaluations of vector control operations.

VBC hosts a regular seminar series that is designed to present basic and operational research in the various subject areas of vector biology, vector-borne disease, and the latest developments in the management of vectors and the diseases they vector.

Lastly, VBC has initiated an internship program that allows promising young vector-borne disease control specialists to gain practical experience by working closely with the VBC staff.