E1242

ENVIRONMENTAL MANAGEMENT PLAN

FOR

TAJIKISTAN COMMUNITY AND BASIC HEALTH PROJECT

October 2005

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I. BACKGROUND

1.1 Introduction

Health is a core objective of the Tajikistan Poverty Reduction Strategy Paper (PRSP) and improvement in sector performance and health status are key objectives of the government's reform program and efforts to meet the MDGs: objectives shared by the Bank's Country Assistance Strategy for Tajikistan which aims to help "preserve and enhance the quality of health and education services." The Ministry of Health has demonstrated increasing sophistication over the past few years and is rapidly improving its ability to manage the complex transition from humanitarian assistance to sustainable development. It has also become increasingly open about unresolved challenges in the sector, going so far as to accept the validity of external reports on health status in Tajikistan even when these do not fully concur with its own data collection efforts. This bodes well for a serious relationship on complex policy and financing reforms such as those currently embarked on by MOH and planned for support under the current project. The Bank has become increasingly engaged in the Tajikistan health sector over the past five years. This would be the second Bank-financed health project in Tajikistan. The Primary Health Care Project (P049894) closed, fully disbursed, in March 2005, and was rated satisfactory. A Health Sector Note was prepared in 2004 and is in the process of dissemination. The Bank's relationship with MOH is good, and the Bank is well positioned to continue coalition-building with other donors. Health also features in the planned PBC operation, with a focus on management and payment reforms in primary care.

The project would be a Sector Investment Grant (SIG), financed by an IDA Grant of US$10.0 million equivalent, co-financing from SIDA equivalent to US$6.0 million; no counterpart funding. The objective of the proposed Project is to increase access to, utilization of, and patient satisfaction with health services in project-supported areas, and to build capacity and efficiency at national and selected oblast and rayon levels in administering the BBP and per capita financing for primary health care (PHC).

1.2 Major Investment Components

The main physical investment component of the proposed project envisaged to be financed from IDA funds is the rehabilitation and/or reconstruction of basic PHC facilities in selected rayons in Sughd and Khatlon oblasts.

1.3 Environmental Category

This is a Category C project. The main physical investment component of the proposed project envisaged to be financed from IDA funds is the rehabilitation and/or reconstruction of basic PHC facilities in selected rayons in Sughd and Khatlon oblasts. Therefore, the immediate impact on the environment would be limited. Potential adverse environmental impacts are summarized below and are restricted in scope and severity:

- Dust and noise due to demolition and construction;
- Disposal of construction wastes;
- Risk from inadequate handling of hazardous wastewater, waste gases and spillage of hazardous material during operation of the building;

1.4 Institutional and Implementation Arrangements

Implementation of the new project will be done through the PIU. However, to promote better integration of the PIU with MOH and other partners, and to help build the MOH's internal capacity in project implementation and related functions, two changes are proposed cf. the Primary Health Care Project: first, a shift in premises to move the PIU into the MOH; and second, a shift in staffing whereby component specialists would be based alongside their direct counterparts in the MOH rather than in the PIU. It is recognized that space limitations may prevent the entire PIU from moving into MOH premises immediately, especially since the PIU will need to retain and possibly expand its staffing on the civil works front, but the advantages to MOH in terms of capacity building and knowledge transfer are significant enough to warrant strenuous efforts to accommodate the PIU on-site.

The PIU will carry out the day-to-day activities of the Project which will include: procurement; project accounting and financial reporting; administer special accounts and withdrawal applications for disbursements; and coordinate external audit arrangements. The PIU has installed an accounting software that will only need to be adapted to be able to generate reports required under the proposed project.

1.5 Institutional Structures in Environmental Management and Health Planning

All projects have to comply with requirements of national environmental legislation. Tajikistan's "Law on Environmental Expertise" (Law #20) was adopted in April 22, 2003. Section 7 of this law lists the types of projects and activities which are subject to environmental expertise procedures. In each particular case the project proponent is expected to check with local authorities whether the proposed project shall undergo this procedure, since the law is not conclusive. Normally, change of pumps or minor repair works should be exempted from this procedure, however, the item 13 of this Section states that "any activity, which in accordance with regulatory acts, may have a negative impact on environment" is subject to environmental expertise procedure.

For health facilities, provisions of the Sanitary and Epidemiological Code will also apply.

II ENVIRONMENTAL MANAGEMENT PLAN

2.1 Introduction

The Environmental Management Plan (EMP) has been prepared in order to integrate environmental concerns into the design and implementation of the proposed project. The EMP would support:

2.2 Establishment of Environmental Expertise within the Ministry of Health

Compliance with these guidelines is the responsibility of the Project Implementation Unit of the Ministry of Health in collaboration with the Deputy Minister for Capital Construction.

2.3 Site Specific Environmental Screening and Review

As a part of the EMP, all project supported activities for rehabilitation/renovation of PHC facilities would be subject to a site-specific environmental screening and review process according to existing Sanitary Norms and Rules. This process would minimize site-specific environmental impacts and would use a standardized appraisal format that includes, but is not limited to, review of:

a) current environmental problems at the site (soil erosion, water supply contamination, etc.);
b) potential environmental impacts, if any, due to the project (disposal waste from construction, medical waste handling and disposal, construction noise and dust, etc); and
c) potential requirements, if any, for temporary relocation of services for patients and location of patients and clinical staff during the construction activities.

2.4 Supervision

The environmental issues including mitigation measures would be supervised periodically by the MOH, the SES Department, and other agencies authorized by Oblast and Rayon SESs.

No major environmental impacts are anticipated under the proposed program given the relatively small size of most of the investments. These investments are expected to be environmentally beneficial (such as the introduction of energy-conserving technology) and none of the units to be financed is expected to have any large scale, significant and/or irreversible impacts. No new structures or works of significant size are envisaged under the project. Should the new structures be prefabricated, even less impact is expected. The potential negative environmental impacts are expected to be localized or able to be mitigated during the implantation stage.

On the other hand, there are environmental regulations in force in Tajikistan, that makes control and supervision of construction works mandatory. Contracts and bill of quantities will include clauses for appropriate disposal of unacceptable construction material and disposal of construction waste. Procurement documents will specify that no environmentally unacceptable

materials will be used. Bidding documents will include rehabilitation of adequate sanitary facilities, including appropriate disposal of wastewater and sewerage. The environmental management guidelines included in Attachment 2 should be provided to contractors engaged in civil works under the project, and should be made an integral part of the civil works contracts.

The EMP presented below identifies the environmental impacts and proposed mitigation measures for most of the activities under the rehabilitation and construction of PHC facilities.

Environmental Component	**Impacts**	**Mitigation Measures**
Physical Environment		
Soils	contamination from waste materials	• protection of soil surfaces during construction; • control and daily cleaning of construction sites; • provision of adequate waste disposal services to assure regular waste discharge and sail
Water	• clogging of drainage works • introduction of hazardous wastes	• special attention to drainage, proper disposal of oil and other hazardous materials; • rehabilitation of adequate sanitary facilities and purifying constructions including appropriate disposal of wastewater and sewerage
Air Quality	dust during construction	• dust control by water or other means to keep dust down if problem is evident
Noise	noise disturbance during construction or operation	• restrict construction to certain hours
Social Environment		
Aesthetic and Landscape	• risk of construction debris dumped into nearby water bodies; • disposal of construction waste • risk of unwanted access to the construction areas	• the building site will be cleaned and all debris and waste materials will be disposed of in accordance with clauses specified in the bills of quantities; • the sites for disposal of construction waste will be government- approved sites; • maximal secondary use of wastes; • fencing of the construction areas to avoid unwanted access;
Human Health	• construction accidents	• specially designed systems for

	• handling of asbestos material • working under an exposure of noise and dust • potential negative impact of materials used in the construction	handling/disposal of hazardous wastes; • use of individual protection means; • prior health check-ups of workers involved in the renovation works; • ensure a use of only materials which have an appropriate permission;

III. ENVIRONMENTAL GUIDELINES

3.1 Introduction

The Environmental Guidelines section details the specifics to be addressed in the ecological/biologic concept, design and planning of small-scale projects for the upgrading of health infrastructure. The guidelines cover the handling of construction debris generated, selection of construction materials and construction methods with limited impact on the environment, energy saving methods as well as the handling of medical and non-medical wastes under project supported activities. The guidelines are a base for training, programming, research, discussions and workshops. However, in selecting suitable construction methods and materials for the clinics, great attention should be paid to locally available traditions, skills and resources in the project sites.

3.2 The Site

The site specific screening and review should carefully assess the following issues:

- Dust and noise due to the demolition and construction.
- Dumping of construction wastes accidental spillage of machine oil, lubricants, etc.
- Risk from inadequate handling of medical waste or medical radiation hazards.
- Potential requirements, if any, for temporary relocation of patient services, patients and clinical staff during the construction activities.
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Dust from transportation and handling of construction works will be minimized by water and other means such as enclosure of construction sites. To reduce noise, construction will be restricted during certain hours. All debris, construction and wood waste will be stored within the work site. Wood waste will be stored separately and arranged to be recycled instead of disposing it. Open burning and illegal dumping will not be permitted. Proper sites for earth/clay and sand disposal will be determined and prior approval from relevant authority for disposal will be obtained. Stock piling of construction debris on site will be avoided and waste will be disposed of on a regular basis at the authorized government dumping ground. Debris chutes will be provided to transfer debris from higher floors to the ground.

It is necessary to arrange transport and make agreements with relevant organizations involved in waste and construction debris discharge.

It is also required to create necessary conditions for safe removal of sewage during the rehabilitation and renovation and observe the ecological and sanitary regulations during the rehabilitation of sanitary and technical equipment, sewage pipes and purifying constructions.

The following remarks are intended to reflect the type of standards and guidelines to be incorporated in the construction and rehabilitation of hospital facilities.

At the end of the rehabilitation and renovation, if the new equipment is installed it is necessary to confirm the regularity and safety of each equipment unit and conduct public sanitary epidemiologic assessment. It is therefore necessary to create a working commission including representatives of environment protection agencies.

3.3 Energy Efficiency, Insulation and Ventilation

Insulation should be tailored to the seasonal impacts of climate, internal thermal load, and characteristics of exposure. Vapor berries should prevent moisture intrusion in the roof insulation and outer wall cavities and using damp course.

Window location should be determined on view, ventilation, light, thermal gain, privacy control and interior space functions.

High-efficiency systems for heating domestic water (including solar systems) and for interior space heating should be selected with maintenance and long term running costs in mind. Plumbing should be coordinated to minimize plumbing and also water service to toilets, kitchen and utility rooms. Water-saving faucets, ring mains and other devices also require consideration. All plumbing lines should preferably be copper, with waste lines in cast iron to avoid PVC outgassing. Exposed plumbing and pipe insulation should be of nontoxic material.

All materials and equipment (to be used) should have a security certificate.

3.4 Filtration

Using electrostatic, activated charcoal, and high-efficiency filters can greatly improve the indoor air quality. Filters that remove particulates down to 0.3 microns are advisable for capture of microbial agents. Molecular absorbing filters can be used to remove toxic gases originating from internal and external sources. Self-actuating electrostatic filters are possible to clean, less expensive, and use no electricity. Electrical electrostatic filters should have an activated charcoal filter in order to subsequently remove ozone that can be generated by the particles on the filter. When sequential filtering for primary particles, HEPA (high efficiency particulate air filtration) is used, then the use of charcoal, potassium permanganate, or other molecular absorbers plus negative ionization at the delivery point of distribution are desirable. Smoking areas or rooms, if any, should be isolated by partitions and equipped with outside exhaust that creates a negative pressure in the space. Certain medical equipment, copy machines, as well as other reproduction equipment, should be adequately ventilated to remove their particulates and gases. Maintenance, including duct cleaning, filters cleaning and changes, and cleaning positive plate receivers and ionizing tips, should be routine and included in recurrent maintenance budgets.

3.5 Electrical Systems

Incoming cables should be located underground. Main entrance feed and panel located away from places of work and waiting is prudent in avoidance of electromagnetic fields. Ground fault wiring near any plumbing fixture is a precaution. Selecting the most energy-efficient light fixtures, lamps, appliances and equipment will reduce energy demand but can introduce

undesirable electromagnetic fields. Be aware that close proximity to table, floor and desk halogen, fluorescent and other high-efficiency fixtures and lamps can cause an exposure to harmful electromagnetic fields.

3.6 Cabinetry and Wood

Nontoxic finishes are available but expensive. Selecting the least toxic finishes is advised. All materials should have appropriate permissions on quality and safety (appropriateness certificate and sanitary-epidemiologic conclusion).

3.7 Finishes

Water-based interior nontoxic, no allergenic paint for drywall or plaster surfaces is preferable to latex or oil-based paints from a respiratory standpoint. Any enamel coating for doors or other surfaces that require a more durable finish is advised to be applied away from interior spaces and be fully aired for over a month before installation. Indoor space should not be occupied until odor and toxins of the paint or finish has been adequately aired.

3.8 Flooring

Tradition tile, marble, stone and terrazzo floors can be hard to stand and walk upon but have legendary durability. Nontoxic grouts and methods of installation should be used. Cleaning considerations should be included in the decision process.

3.9 Window Treatments

Vertical blinds provide light control, are easy to maintain, and require minimal stacking room. Horizontal blind can in combination with a white or light ceiling reflect daylight more deeply into a room. Exterior roller blinds, operable from the interior, are particularly effective in controlling solar thermal gain and interior heat loss, and give the benefit of security. Direct solar radiation can be attenuated by fabric mesh.

3.10 Exterior and Interior Colors

In climates with hot summers, reflective roofs provide a cooling advantage. When cold season occur, darker-colored exterior walls will benefit by low-angle winter solar gains but be less heated by the light angle of the summer sun. White or very light-colored ceilings and interior side walls allow for deeper reflective penetration of natural light. Doors between interior room spaces can act as reflectors. Gloss white lacquer or enamel doors in the path of incoming daylight can lighten adjoining spaces. Interior paints and finishes can affect patients and staff directly. Outdoor finishes with odorous and toxic emissions can also have an effect upon persons indoors through windows, doors and other openings.

3.11 Demolition work

Existing building elements (walls, foundations, ground cement slabs etc.) should be carefully demolished and the debris should be sorted and removed as directed by the EMP (to be determined during the preparation phase of the project). All valuable materials (doors, windows, sanitary fixtures, etc) should be carefully dismantled and transported to the storage area assigned for the purpose. Valuable materials should be recycled within the project or sold.

3.12 Selection of Construction Materials and Construction Methods

Environmentally sound goods and services should be selected. Priority should be given to products meeting standards for recognized international or national symbols. Traditionally well-tried materials and methods should be chosen before new and unknown techniques. Construction sites should be fenced off in order to prevent entry of public, and general safety measures would be imposed. Temporary inconveniences due to construction works should be minimized through planning and coordination with contractors, neighbors and authorities. In densely populated areas, noisy or vibration generating activities should be strictly confined to the daytime.

ATTACHMENT 1

ENVIRONMENTAL GUIDELINES FOR CIVIL WORKS CONTRACTS

The contractors are required to use environmentally acceptable technical standards and procedures during the implementation of construction of works. All construction contracts will contain the following requirements:

- Take precautions against negative influence on environment, any environmental damage or loss through prevention or suppression measures (where it is possible) instead of liquidation or mitigation of negative consequences.
- Observe all national and local laws and rules on environmental protection. Identify officers responsible for the implementation of activities on environmental protection conforming to instructions and directions received from the construction and design or environmental protection agencies.
- Minimize dust emission to avoid or minimize negative consequences influencing air quality.
- Provide pedestrian crossing and roads and access to the public places.
- Provide markets with light and transient roundabout connections to assure safety and convenience.
- Prevent or minimize vibration and noise from vehicles during explosive activities.
- Minimize damages and assure vegetation recovery.
- Protect surface and underground water from soil pollution. Assure water collection and distribution.