World Bank
Ethiopian Social Rehabilitation and Development
Fund (ESRDF)

Environmental and Social Management
Plan

Prepared for the Ethiopian Social Rehabilitation and
Development Fund

Addis Ababa, Ethiopia
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Abbreviations and Acronyms

EA* Environmental assessment
ESMP Environmental and Social Management Plan
ESRDF Ethiopia Social Rehabilitation and Development Fund
ER* Environmental review
LEA Limited Environmental Assessment
NGO Non-governmental organization
OD Operational directive
OP Operational policy
RWSS Rural Water Supply and Sanitation
RPF Resettlement Policy Framework
SF Social Fund
SI Social Infrastructure
SSI Small-scale Irrigation
WCT Water Catchment Treatment

* See Glossary for definitions.
Glossary

Environmental Assessment (EA): The process of managing the environmental aspects of a policy, strategy, program, or subprojects from the earliest stages of identifying potential actions to their completion and evaluation. The process encompasses identification of potential adverse environmental impacts; assessment of these impacts and comparison to impacts of alternative approaches; design and implementation measures and plans to avoid, minimize, mitigate, or compensate for adverse impacts; and development of associated management and monitoring measures. EA considers natural and social aspects in an integrated way.

Environmental Assessment Report: A suggested environmental assessment instrument—rarely necessary in a Social Fund (SF) subproject—to identify and assess major potential environmental impacts of proposed subprojects, evaluate alternatives, and design appropriate mitigation, management, and monitoring measures (generally in the form of an environmental management plan). World Bank Category A projects usually require an EA report.

Environmental Review (ER): A suggested environmental assessment instrument in which the subproject is likely to have minimal impacts but should be reviewed with a simple and standardized checklist of possible impacts and appropriate mitigation measures.

Environmental Screening: The process of identifying, as early as possible, the potential adverse environmental impacts of a proposed subproject; assigning an environmental category indicating the level of anticipated impact and corresponding level of environmental assessment required; and identifying the most relevant EA instruments needed to address potential impacts and environmental issues associated with the subprojects. In this document we recommend that the screening process indicate whether further environmental assessment is required for each subproject, and if so, which of the three environmental instruments (ER, LEA, or EA report) should be used.

2. This and some other definitions here are taken from or adapted from the Glossary section of the Environmental Assessment Sourcebook Update.
3. See also Environmental Assessment Sourcebook Update, “No. 2: Environmental Screening” (1993).
**Limited Environmental Assessment (LEA):** An instrument that assesses whether a subproject is likely to cause environmental impacts that merit consideration by an environmental specialist, and determines what special mitigation measures are needed. Detailed checklists, customized for different subproject types, would normally be used and supplemented on a case-by-case basis, possibly by field visits.

**Monitoring:** 4 Technical and institutional activities that are implemented by the SF or the executing agency to measure and evaluate environmental (including health and socioeconomic) changes induced by a project. The overall objective is to identify predicted and unanticipated changes to the physical, biological, and social environment brought about by the project.

**Supervision:** Any activity directed towards ensuring that the executing agency implements subprojects responsibly, regarding agreed environmental safeguards and the need to address unanticipated environmental problems. This involves visiting subproject sites, meeting with beneficiaries, and reviewing environmental monitoring reports.

**Water Catchment Treatment:** Subprojects that by their nature are seen as being environmentally beneficial. These subprojects introduce a variety of interventions and techniques to restore, protect and maintain degraded watershed areas. The objective is to reduce erosion, re-vegetate or reforest using indigenous and/or non-indigenous species and to train beneficiaries to use and maintain the watershed in a sustainable fashion.

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1. INTRODUCTION

1.1 Objectives of the Ethiopia Social Rehabilitation and Development Fund (ESRDF)

The overall development objective of the Ethiopia Social Development Fund (ESRDF) is to contribute to the government’s strategy for poverty reduction by improving the social and economic welfare of many poor and marginalized communities in Ethiopia. Specifically, the project aims to empower poor communities to identify and implement their own development priorities, through the support of a transparent and decentralized institutional mechanism for transferring investment resources and ensuring investment sustainability. An overarching theme is the strong emphasis placed on capacity building, particularly at the district and community levels, which is considered critical to empowering communities, forging greater partnerships at the local level, promoting local ownership of development outcomes, and ensuring sustainability of community-created assets.

Over the past six years (the fund was initiated in 1996), ESRDF has financed many community-initiated development projects following selection criteria described in the project’s Operational Manual. These projects have mostly been in the areas of: small-scale irrigation schemes; rural water supply and sanitation; basic health and education infrastructure; income generating activities; social services; and, capacity building activities.

Building on the experiences gained over six years of implementation of this earlier fund, ESRDF intends to initiate a second phase (ESRDF II) in the near future. This proposed fund will finance many of the same types of projects financed earlier, but will also finance investments requested at the wereda (district) level through the provision of block grants to those weredas who are able to meet established eligibility and performance criteria. The Government of Ethiopia sees ESRDF as a major instrument to support their decentralization policy and to strengthen the capacity of district governments to plan and implement their own projects.
1.2 Preparation of an Environmental and Social Management Plan

This document outlines a proposed Environmental and Social Management Plan (ESMP), to include mitigation, monitoring, and institutional measures to be considered during project implementation and operation to avoid or mitigate potential adverse environmental and social impacts.

The ESMP is intended to complement and build upon the experiences and procedures used to screen projects under the earlier ESRDF phase, and provide the foundation to update the Operational Manual and screening criteria to meet current World Bank Safeguard policy requirements.
2. POTENTIAL ENVIRONMENTAL AND SOCIAL IMPACTS OF THE ESRDF SUBPROJECTS

2.1 Primary Objectives of the Environmental and Social Management Plan

The primary objective of the Environmental and Social Management Plan (ESMP) is to provide the essential actions to ensure subproject proposals include the necessary measures for environmental and social protection. The ESMP includes mitigation measures, environmental and social monitoring, capacity building and the institutional resources required to implement the management plan.

A clear and concise ESMP is essential for the successful appraisal of a subproject. It will enable ESRDF to quickly and effectively assess the likely impacts and help identify necessary mitigation measures to counter adverse potential environmental and social impacts.

The successful implementation of the ESMP will also require effective monitoring. Compliance monitoring should be undertaken during implementation of a particular subproject and monitoring of significant impacts should be undertaken after completion.

Compliance monitoring comprises on-site inspection by ESRDF project officers during construction or implementation of the subproject to ensure actions described in the ESMP and included in the Scope of Work of the Contractor are being implemented.

The monitoring of significant impacts can be carried out by qualified ESRDF staff or with the assistance of environmental and social specialists during regular supervision missions.

2.2 Environmental Assessment

An ESMP is typically developed subsequent to the completion of an Environmental Assessment (EA). The World Bank has several policies governing environmental assessment of this particular fund. Operational Policy (OP) 4.01 on Environmental Assessment (revised version issued in January 1999) is the central document that defines the Bank's environmental assessment requirements. The Environmental Assessment Sourcebook (World Bank 1993) and its updates provide technical guidance (Box 1\2.1).
Box 2.1 World Bank Policies and Guidance on Environmental Issues

The World Bank has various mandatory EA guidelines in the form of Operational Directives (ODs) or the more recent Operational Policies (OPs). In addition to Environmental Assessment OP 4.01, there are other directives that cover a number of specific environmental issues, including:

- Conservation of Natural Habitats (OP 4.04)
- Water Resources Management (OP 4.07)
- Involuntary Resettlement (OP 4.12)
- Pest Management (OP 4.09)
- Indigenous Peoples (OD 4.20 - draft OP 4.10)
- Cultural Property (OPN 11.03)a
- Forestry Management (OP 4.36)
- Safety of Dams (OP 4.37)
- Projects in Disputed Areas (OP 7.60)
- Projects on International Waterways (OP 7.50)

Particularly useful Sourcebook Updates related to environmental issues include:

- No. 8, Cultural Heritage in Environmental Assessment (1994)
- No. 5, Public Involvement in Environmental Assessment: Requirements, Opportunities and Issues (1993)
- No. 16, Challenges of Managing the EA Process (1996)
- No. 18, Health Aspects of Environmental Assessment (1997)
- No. 20, Biodiversity and Environmental Assessment (1997)
- No. 24 Environmental Assessment of Social Fund Projects (1999)

a. A new Operational Policy on Cultural Heritage (OP 4.11) is being developed and will be issued shortly.
The screening process used by the World Bank classifies proposed projects into one of four environmental assessment categories. Projects in category “A” potentially cause significant and possibly irremediable environmental impacts. Category “B” projects cause lesser impacts, which are often essentially remediable or mitigable. Category “C” projects can be expected to have little or no environmental impact. All social fund projects within the World Bank, including this project, have traditionally been classified as category “B” because they result only in small-scale, largely remediable impacts.

ESRDF has been classified as environmental category B and has triggered the Bank’s safeguards for Environmental Assessment (OP 4.01), Involuntary Resettlement (OP4.12) and the safeguard for Projects in International Waterways (OP 7.5). As requested by the Africa Safeguard Team, to comply with the Bank’s safeguard policies, the Borrower has prepared an Environmental and Social Management Plan to address the environmental and social concerns related to the subprojects; and a Resettlement Policy Framework to address potential issues of displacement and resettlement.

A few of the small-scale irrigation subprojects to be funded under the Supplemental Credit lie within water basins or tributaries that involves the use of international waterways. To ensure compliance with the Bank’s OP 7.50, these subprojects will conform to procedures and limitations under the ESRDF IDCA. No small-scale irrigation subprojects will be permitted in those regions where agreements and arrangements have not been established.

2.3 Overview of Environmental Impacts Caused by ESRDF

Positive impacts of ESRDF subprojects are considered briefly in Section 2.4.

The most important negative impacts (and typical mitigation measures), by principal subproject category, are discussed in Section 2.5 and in Tables 2.1 to 2.3.

This document considers not only impacts to the physical and biological environment, but also to the social environment of the affected community. For example, construction of a small-scale irrigation subproject, with an obvious impact on the biophysical environment, may also affect the social fabric of a community by preventing or limiting their use of land now used by irrigation infrastructure.
2.4 Positive Environmental Impacts

Many subprojects financed by ESRDF have had or will have a positive impact on the surrounding environment. Latrines, for example, can help decrease human waste contamination of rivers and streams; health facilities provide improved health access and benefits for the rural poor. Both types of subprojects can help decrease the spread of disease and improve public health.

Another way in which ESRDF projects have had or will have a positive impact on the environment is through the financing of subprojects whose principal justification is to produce a positive environmental impact. A good example of this is the Watershed Catchment Treatment (WCT) projects supported under the Small-scale Irrigation component. Another area to be supported under the small-scale irrigation subproject component is the continuation of watershed catchment treatment systems to control soil erosion and restore degraded watersheds. These subprojects are by nature environmentally beneficial and attempt to restore and protect degraded watersheds. In ongoing projects, care will be taken to use exclusively indigenous plant species in order not to deplete the watershed of its water resources. Non-indigenous species will not be used, because almost always these foreign species consume more water than indigenous species and this could deprive downstream users of their water resources.

2.5 Negative Environmental Impacts

ESRDF finances a variety of different subproject types (see Table 2.1), posing a special challenge to those responsible for evaluation of potential impacts.

These subprojects that have impacts can essentially be divided into three broad categories: Small-scale Irrigation (SSI); Rural Water Supply and Sanitation (RWSS); and, Social Infrastructure (SI).

RWSS projects are typically tube wells (hand pumps and motorized pumps), natural springwater collection and distribution systems, and underground pump and distribution systems. Where water points are developed, especially for livestock, there is the risk of overgrazing or undesirable animal traffic in the surrounding area. There are many ways to manage these potential problems such as ensuring that there are sufficient water points developed in an area to avoid pressure on a single source, and establishing protected corridors (using a variety of fencing techniques) to ensure animals remain on paths and out of farmers fields.

SI projects typically involve the construction, rehabilitation or expansion of schools, health and veterinary posts and clinics. The main concerns with the construction of schools and include water supply and sufficient latrine blocks. Ideally, school latrines should have a large capacity so that they don't fill up quickly and need to be emptied only occasionally. It is also important to ensure
that maintenance and cleaning of the latrines are carried out routinely as well as appropriate emptying and disposal of contaminate sludge. The design of latrines needs to be adapted to the cultural context of the users, which is often not the case. This is one reason why latrines are not used properly or not used at all.

SSI subprojects typically constitute small-scale dams, reservoirs and downstream irrigation infrastructure, water catchment treatment systems, diversion weirs and downstream irrigation infrastructure, and pumped irrigation schemes. However, in the context of the ESRDF, diversion weirs have been designed in such a way so that the complete diversion of especially the dry season base flow is not possible. This ensures that an appropriate environmental flow is maintained.

Downstream environmental and social impacts of water diversion on communities and on aquatic systems will also be assessed through the EA process. Small-scale irrigators should have access to a predetermined amount of water during the dry season (water right). The possibility to abstract this amount of water, the water right, will be build into the design of the diversion weir so that irrigators cannot easily temper with the water off-take.

In addition to the subproject types described above, ESRDF provides funding for other activities such as income generating activities, social development and capacity building. These activities do not generate adverse environmental or social impacts.

What follows is not intended to be a comprehensive discussion of all types of subprojects, their impacts, and their mitigation measures. Rather, only the most common impacts that can be expected in the types of subprojects that are typically financed by ESRDF will be highlighted.

2.5.1 Indirect Impacts

The environmental assessment procedures of ESRDF need to consider not only direct impacts but also indirect impacts caused by a chain of results set in motion by a subproject. A typical example would be construction of a new small irrigation subproject which could result in unforeseen health impacts from agricultural runoff into canals and streams, growth of aquatic weeds, expansion of snail populations, and outbreaks of schistosomiasis (snails being a vector of this disease). Malaria is another disease that frequently increases due to the introduction of irrigation (mosquitoes being the vector of this disease).

2.5.2 Cumulative Impacts

Because ESRDF is demand-driven and its investment funds finance large numbers of subprojects, the question of cumulative impacts merits special consideration. Individual subprojects may have negligible impacts, but when tens or perhaps hundreds of similar subprojects are executed within a region, their cumulative impact may be significant. For example while individual small-
scale irrigation subprojects are being financed, collectively they represent a very large investment; consideration of these effects on a regional basis needs to be taken into consideration by both ESRDF and the World Bank.

2.5.3 Small-Scale Irrigation

Irrigation subprojects are designed to provide and manage water for enhancing agricultural production. Irrigation subprojects typically include a variety of structures: small dams, ponds, reservoirs, diversion weirs, wells, pumping stations, irrigation canals, drainage ditches, and pipelines. Construction of irrigation infrastructure could include excavation and earthworks, which can be of elementary design or more sophisticated concrete networks. Table 1.1 summarizes the most frequently encountered environmental impacts of small-scale irrigation subprojects.

Irrigation subprojects often intensify agricultural production in the irrigation zone, and environmental problems may result from increased use and concentrations of agrochemicals. Such agricultural intensification can also cause accelerated nutrient loading of receiving waters, resulting in algal blooms, proliferation of aquatic weeds, and deoxygenation. Moreover, upstream small-scale irrigation development may also divert water away from downstream users, such as communities, pastoralists, and aquatic ecosystems.

Other impacts from irrigation subprojects include waterlogging and salinization of soils, degradation of downstream surface water systems, and biotic and chemical changes to aquatic ecosystems.

Extractions of water from reservoirs or pumping from groundwater have the potential to cause significant hydrological disturbances. Diverting water from river systems, especially during seasonal low flows, can cause changes to riverine ecology, fisheries, and aquatic vegetation. Extensive withdrawal from groundwater sources in excess of the normal rate of aquifer recharge will result in the lowering of the water table and create threats to the subproject's long-term sustainability. This is of particular concern in arid regions such as those in Ethiopia. Moreover, diverting water from river systems may also affect downstream users, such as communities, and pastoralists. Water abstractions could become the cause of water conflicts. These need to be managed through a participatory land and water use planning process.

Irrigation schemes may also cause an increase in waterborne diseases, because disease vectors proliferate in stagnant water bodies or irrigation canals under some circumstances. If canals are not properly maintained, animal and human waste may be deposited into irrigation systems and spread communicable diseases. The incidence of schistosomiasis and malaria could increase due to irrigation development.
Social problems may also arise because of multiple demands for limited land and water resources. Water rights issues cause disruptions of historical land use practices, and the development of irrigation subprojects lead to new agricultural schemes affecting changes in land tenure and arable land. Conflicting demands for land and water and inequities in distribution can also cause problems.

2.5.4 Rural Water Supply

There are generally three types of small-scale rural water supply subprojects supported by ESRDF: tube wells (hand pumps and motorized pumps), natural springwater collection and distribution systems, and underground pump and distribution systems. Table 2.2 (a) summarizes the most frequently encountered environmental impacts of these subprojects under ESRDF.

Most of the environmental considerations with regard to water supply subprojects involve avoiding water contamination. Measures need to be taken to ensure initially good water quality. During operation of the system, measures need to be taken to prevent contamination from agricultural activities, grazing animals, and human settlements.

Testing of the water supply should be performed regularly to detect any contamination to the system, and this should be done in conjunction with periodic chlorine treatment where necessary. Hence, proper training of technicians is critical to ensure that adequate maintenance occurs.

2.5.5 Sanitation

Sanitation is a component of Rural Water Supply and Sanitation and merits separate discussion. The most common ESRDF sanitation subprojects involve the construction of dry latrines and road and drainage improvement systems. Table 2.2 (b) summarizes the most frequently encountered environmental impacts of these types of subprojects.

ESRDF finances the construction of primarily dry pit latrines. Construction of these types of latrines calls for specific technical requirements for siting, type of construction, use, and sanitary measures. The latrines must be periodically emptied and the waste disposed of in a safe and sanitary manner to avoid contamination of the surrounding environment and hygiene problems.

2.5.6 Social Infrastructure

ESRDF typically finances three types of Social Infrastructure subprojects. Most common among these are schools and health facilities. Veterinary facilities are the third. It is rare that such subprojects will cause significant negative environmental impacts. However, they should be screened for potential environmental and social considerations such as involuntary resettlement,
contamination from waste materials during construction, disturbances during construction (dust, noise, etc.), and environmental contamination during operation of the facilities (caused, for example, by inadequate sanitation or drainage disposal).

Health facilities require specific consideration. Potential problems associated with the handling and disposal of medical waste must be addressed during the design of the subproject and monitored during operation of the facility.
<table>
<thead>
<tr>
<th>Environmental and Social Components</th>
<th>Direct Impacts</th>
<th>Mitigation Measures</th>
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</thead>
<tbody>
<tr>
<td><strong>Physical Environment</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Soils</td>
<td>Increase of soil erosion downstream from irrigation infrastructure</td>
<td>Proper siting of irrigation subprojects; extension and training in crop selection, agricultural technology and irrigation system operation; careful design and appropriate selection of irrigation systems; adequate drainage</td>
</tr>
<tr>
<td></td>
<td>Soil waterlogging as a result of improper drainage</td>
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<tr>
<td></td>
<td>Increased salinization</td>
<td></td>
</tr>
<tr>
<td><strong>Water Resources</strong></td>
<td>Water quality degradation in, rivers, streams, ponds and reservoirs</td>
<td>Control of agrochemical use; proper design of canals; monitoring of water quality; operation &amp; maintenance plan; regional water use plans</td>
</tr>
<tr>
<td></td>
<td>Deoxygenation of receiving water</td>
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<tr>
<td></td>
<td>Clogging of canals from weeds</td>
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<tr>
<td></td>
<td>Increased sedimentation</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Degradation of water systems receiving irrigation and drainage waters by nutrients, agrochemicals and salts</td>
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<td></td>
<td>Disturbances to flow regimes</td>
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<tr>
<td><strong>Air Quality</strong></td>
<td>Dust during construction</td>
<td>Diversion weirs will also be designed in such a way so that the complete diversion of especially the dry season base flow is not possible and so that an appropriate environmental flow is maintained</td>
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<td></td>
<td></td>
<td>Water management (timely closure of gates, no free running water through the irrigation system)</td>
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<td>Use of water to minimize dust generation</td>
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<tr>
<td><strong>Biological Environment</strong></td>
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<tr>
<td>Natural Habitats</td>
<td>Disturbance of natural habitats</td>
<td>Consideration of alternative sites; select appropriate design and crops</td>
</tr>
<tr>
<td></td>
<td>Disturbance to protected areas</td>
<td></td>
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<tr>
<td>Fauna and Flora</td>
<td>Disruption or destruction of wildlife</td>
<td>Provision of corridors or designated areas of habitat for movement and protection of animals; manual, biological or chemical</td>
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<tr>
<td></td>
<td>Algal blooms, proliferation of aquatic weeds</td>
<td></td>
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<tr>
<td>Social Environment</td>
<td>Maintenance</td>
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</tbody>
</table>
| Human Health       | Risk of waterborne diseases from artificial water flows (schistosomiasis, malaria, etc.)  
Disease transmission from human and animal waste deposits in irrigation waters used on agriculture  
Toxicity of pesticides |
|                    | Education in proper sanitation and health practices; avoidance of stagnant waters; adequate treatment of irrigation waters; careful management of pesticides; integrated pest management (IPM) programs; protection of canals and reservoirs from livestock |
| Human Communities  | Involuntary resettlement, loss of property  
Conflicts over water use rights  
Multiple land use demands on limited land and water sources  
Political and social problems associated with transboundary land and water use and pollutant discharges |
|                    | Compensation as per OD 4.12; good consultation and participation with affected communities; consideration of cumulative impacts |
| Historical/Cultural Sites | Degradation of sites  
Disturbance to structures |
|                    | Consideration of alternative sites; special measures to protect buildings & other cultural resources/areas; mitigation measures to be incorporated into contracts for civil works  
Consultation with Regional Bureau of Cultural Information |
Table 2.2(a) Potential Impacts and Mitigation Measures of Rural Water Supply Subprojects Financed by Ethiopia Social Rehabilitation and Development Fund (ESRDF)

<table>
<thead>
<tr>
<th>Environmental and Social Components</th>
<th>Direct Impacts</th>
<th>Mitigation Measures</th>
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<tbody>
<tr>
<td>Physical Environment</td>
<td></td>
<td></td>
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<tr>
<td>Soils</td>
<td>Degradation of soil cover</td>
<td>Protection during construction; revegetation or physical stabilization</td>
</tr>
<tr>
<td>Water Resources</td>
<td>Contamination of water resources</td>
<td>Adequate protection from livestock; minimal distance from human settlements and agricultural areas; regional water use planning; proper drainage near wells and pumping stations; community participation; links to sanitation subprojects</td>
</tr>
<tr>
<td></td>
<td>Overexploitation of aquifers</td>
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<td></td>
<td>Inadequate wastewater disposal</td>
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<td></td>
<td>Creation of stagnant water pools</td>
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<tr>
<td>Acoustic Environment</td>
<td>Noise disturbance from motorized pump station if near a home</td>
<td>Siting studies</td>
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<tr>
<td>Biological Environment</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Natural Habitats</td>
<td>Disturbance of natural habitats</td>
<td>Siting studies</td>
</tr>
<tr>
<td>Fauna and Flora</td>
<td>Loss or degradation of vegetation</td>
<td>Protection of vegetation during construction</td>
</tr>
<tr>
<td></td>
<td>Disruption or destruction of wildlife</td>
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<tr>
<td>Social Environment</td>
<td></td>
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</tr>
<tr>
<td>Aesthetics and Landscape</td>
<td>Marred landscapes</td>
<td>Revegetation; cleanup of construction sites</td>
</tr>
<tr>
<td></td>
<td>Debris</td>
<td></td>
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<tr>
<td>Human Health</td>
<td>Waterborne diseases</td>
<td>Correct design and adequate training; testing procedures</td>
</tr>
<tr>
<td></td>
<td>Chemical imbalances in delivery system</td>
<td>Monitoring of waterborne diseases, treatment for malaria, and provision of impregnated bednets</td>
</tr>
<tr>
<td>Cultural Property</td>
<td>Site degradation</td>
<td>Consideration of alternative sites; special measures to protect buildings &amp; other</td>
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<td></td>
<td>Disturbance to structures/property</td>
<td></td>
</tr>
<tr>
<td>Human Communities</td>
<td>Involuntary resettlement</td>
<td>Compensation as per OD 4.12; good consultation and participation with affected communities; consideration of cumulative impacts</td>
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<tr>
<td></td>
<td>Loss of buildings or property</td>
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Table 2.2 (b) Potential Impacts and Mitigation Measures of Latrines and Drainage Subprojects Financed by Ethiopia Social Rehabilitation and Development Fund (ESRDF)

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<th>Mitigation Measures</th>
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<tbody>
<tr>
<td><strong>Physical Environment</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Soils</td>
<td>Degradation and erosion of soil cover</td>
<td>Erosion control during construction; Construction during dry season</td>
</tr>
<tr>
<td>Water Resources</td>
<td>Point source pollution at discharge point</td>
<td>Select appropriate technology for wastewater treatment; settling ponds, screens, or aeration systems; siting studies; incorporation into larger wastewater systems; adequate training in maintenance of latrines or drainage systems; alternative siting; monitoring programs</td>
</tr>
<tr>
<td></td>
<td>Water quality degradation</td>
<td></td>
</tr>
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<td></td>
<td>Contamination of surface and subsurface water resources</td>
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</tr>
<tr>
<td></td>
<td>Increased sediments and debris into streams</td>
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<tr>
<td></td>
<td>Clogging of drainage systems</td>
<td></td>
</tr>
<tr>
<td>Biological Environment</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Natural Habitats</td>
<td>Disturbance of natural habitats</td>
<td>Alternative site</td>
</tr>
<tr>
<td>Fauna and Flora</td>
<td>Loss or degradation of vegetation</td>
<td>Alternative site</td>
</tr>
<tr>
<td></td>
<td>Disruption or destruction of wildlife</td>
<td></td>
</tr>
<tr>
<td>Social Environment</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Aesthetics and Landscape</td>
<td>Unpleasant odors</td>
<td>Include odor-control technology in design</td>
</tr>
<tr>
<td>Human Health</td>
<td>Disease transmission</td>
<td>Select appropriate technology; training and monitoring programs, community participation, operation and maintenance plans</td>
</tr>
<tr>
<td></td>
<td>Accident risk during construction</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Improper use of night soil from composting latrines</td>
<td></td>
</tr>
<tr>
<td>Human Communities</td>
<td>Impacts may be concentrated downstream in other communities</td>
<td>Adequate consultation and participation of all potentially affected communities</td>
</tr>
</tbody>
</table>
Cultural Property

Site degradation
Disturbance to structures/property

Consideration of alternative sites; special measures to protect buildings & other cultural resources/areas; mitigation measures to be incorporated into contracts for civil works
Consultation with Regional Bureau of Cultural Information
Table 2.3 Potential Impacts and Mitigation Measures of Social Infrastructure Subprojects Financed by Ethiopia Social Rehabilitation and Development Fund (ESRDF)

<table>
<thead>
<tr>
<th>Environmental and Social Components</th>
<th>Impacts</th>
<th>Mitigation Measures</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical Environment</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Soils</td>
<td>Contamination from waste materials</td>
<td>Protection of soil surfaces during construction; control and daily cleaning of construction sites; provision of adequate waste disposal services</td>
</tr>
<tr>
<td>Water Resources</td>
<td>Clogging of drainage works</td>
<td>Special attention to drainage; proper disposal of oil and other hazardous materials; adequate sanitation and disposal system for waste (especially for schools and health facilities)</td>
</tr>
<tr>
<td></td>
<td>Decline in water quality due to contamination</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Introduction of hazardous wastes</td>
<td></td>
</tr>
<tr>
<td>Air Quality</td>
<td>Dust during construction</td>
<td>Dust control by water or other means; appropriate design and siting of subproject.</td>
</tr>
<tr>
<td></td>
<td>Odor problems (e.g., latrines and waste from schools and health facilities)</td>
<td></td>
</tr>
<tr>
<td>Acoustic Environment</td>
<td>Noise disturbance during construction or operation</td>
<td>Restrict construction to certain hours</td>
</tr>
<tr>
<td>Biological Environment</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Natural Habitats</td>
<td>Disturbance of natural habitats</td>
<td>Consideration of alternative alignments or sites</td>
</tr>
<tr>
<td>Fauna and Flora</td>
<td>Loss or degradation of vegetation</td>
<td>Minimize loss of natural vegetation during construction; consideration of alternative sites; various special measures for sensitive species</td>
</tr>
<tr>
<td></td>
<td>Disruption or destruction of wildlife</td>
<td></td>
</tr>
<tr>
<td>Social Environment</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Aesthetics and Landscape</td>
<td>Debris</td>
<td>Cleanup of construction sites; provision of adequate solid waste disposal systems; consultation with Regional Bureau of Cultural Information</td>
</tr>
<tr>
<td>Cultural Property</td>
<td>Degradation of sites</td>
<td>Consultation with Regional Bureau of Cultural Information</td>
</tr>
<tr>
<td></td>
<td>Disturbance to structures</td>
<td></td>
</tr>
<tr>
<td>Human Health</td>
<td>Construction accidents</td>
<td>Specially designed systems for disposal of medical wastes</td>
</tr>
<tr>
<td>----------------------</td>
<td>------------------------</td>
<td>--------------------------------------------------------</td>
</tr>
<tr>
<td></td>
<td>Medical wastes from health posts</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Human Communities</th>
<th>Involuntary resettlement</th>
<th>Compensation per OP 4.12; good siting; community participation in environmental assessment</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Loss of buildings, property, or economic livelihood</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Disruption due to greater population concentrations</td>
<td></td>
</tr>
</tbody>
</table>
3. INCORPORATING ENVIRONMENTAL ASSESSMENT INTO THE ESRDF SUBPROJECT CYCLE

3.1 ESRDF Subproject Cycle

ESRDF operates within a well-defined mandate and in accordance with operational procedures documented in a detailed Operational Manual. The Operational Manual defines the steps required to implement subprojects and includes a series of standard procedural forms, reviews, and measures to ensure accountability. The Operational Manual is supplemented with a series of subproject specific Appraisal Forms.

Critical steps in the ESRDF subproject cycle include targeting and promotion, subproject formulation, appraisal, approval, implementation, and monitoring and evaluation. Environmental and social issues need to be considered at each of these steps.

3.2 Targeting and Promotion of Subprojects

3.2.1 Targeting Goals

ESRDF carefully establishes targeting goals for their portfolio of subprojects. Targeting and promotion are critical to attaining the overall goals for which ESRDF was established, and typically are focused on ensuring that the subprojects reach the poor.

Allocation of funds between various subproject types vary with the area of the country, local capacity, community-based demands, activities of other governmental and non-governmental organizations, and the capacity of ESRDF itself.

As discussed in Section 1.2, there is increasing demand for ESRDF to include environmentally beneficial subprojects such as Watershed Catchment Treatment in its portfolio. This is currently the most important way that environmental considerations are reflected in the targeting and promotion stage. There are, however, other environmental considerations worth noting at this stage.
Incorporating EA into the ESRDF Project Cycle

Figure 3.1
ESRDF Subproject Cycle

**Targeting and Promotion**

*Objective:* Create demand in target area

*Actions:*  
- Target with poverty and/or geographical focus  
- Target by subproject type  
- Increase awareness by the intended beneficiaries about ESRDF's existence, types of eligible subprojects, and required procedures

**Formulation**

*Objective:* Translate project ideas into viable proposals

*Actions:*  
- Identify project and community needs and priorities  
- Assist beneficiaries or intermediaries such as NGOs in formulation of subproject proposals that meet community needs and ESRDF requirements

**Approval**

*Objective:* Select viable subprojects for ESRDF funding

*Actions:*  
- Prioritize proposals for funding consistent with SF parameter (by project type, community need, amount of money available)  
- Approve subproject if technical criteria (financial, social, environmental, etc.) are met

**Evaluation**

*Objective:* Appraise proposals

*Actions:*  
- Review proposals to ensure they meet guidelines of ESRDF  
- Review technical aspects of proposals to ensure viability  
- Verify local commitment and capacity  
- Undertake field visit

**Implementation and Supervision**

*Objective:* Select subproject executors and ensure subproject's progress

*Actions:*  
- Contract parties to execute subproject  
- Provide supervision through field visits during subproject execution

**Monitoring and Evaluation**

- Select subproject executors and ensure subproject's progress  
- Contract parties to execute subproject  
- Provide supervision through field visits during subproject execution
Incorporating EA into the ESRDF Project Cycle

**Figure 3.2**

*Environmental Assessment Process for ESRDF Subprojects*

### Targeting and Promotion

**Objective:** Ensure that environmental issues are introduced to beneficiaries

**Actions:**
- Educate beneficiaries on environmental issues and requirements of ESRDF
- Promote environmentally beneficial subprojects
- Ensure conformity with national environmental strategies and policies, International Conventions, and World Bank safeguard policies

### Formulation

**Objective:** Ensure that environmental issues are considered at the earliest stage of the subproject cycle

**Actions:**
- Provide technical assistance directly to subproject formulators when necessary, or direct them to qualified specialist who can help in subproject formulation
- Ensure impacts and mitigation measures are considered by subproject proposal

### Approval

**Objective:** Select most needed and environmentally sound projects for funding

**Actions:**
- Once subproject has been screened and any necessary environmental review or assessment has been completed, subproject can be approved if it meets environmental viability criteria
- In some cases approval may be denied if the environmental assessment recommendations have not been satisfactorily incorporated into subproject design

### Evaluation

**Objective:** Ensure that environmental impacts have been analyzed and appropriate mitigation measures designed

**Actions:**
- Screen proposals to categorize subprojects according to the type of environmental review that will be necessary
- Carry out either an environmental review, limited environmental assessment, or a full environmental assessment report, which will identify impacts and design appropriate mitigation measures

### Implementation and Supervision

- Prepare contracts with environmental clauses for companies, organizations, and communities to execute subprojects
- Undertake site visits to ensure that environmental criteria and mitigation measure, as required by contracts, have been incorporated into subprojects
- Require changes to subproject design and/or implementation if unforeseen impacts occur
- Approval required to issue final payment for subproject construction

### Monitoring and Evaluation

- Site visits during subproject execution and operation to assess how environmental screening and mitigation measures are succeeding or have succeeded in minimizing impacts
- Determine if changes are needed to improve environmental assessment process
- Meet with contractors and community representatives to gather feedback
3.2.2 Promotional Programs

Poor communities, by nature of their isolation and their very poverty, may have little opportunity to learn about programs designed to help them. Therefore, ESRDF has established promotional programs to disseminate information about the fund to intended beneficiaries. This component is often supported by a promotion and training capacity within the fund that acts as an extension program. In general, beneficiaries are provided information about the types of subprojects, the selection criteria, and required procedures.

It is important to include environmental and social considerations in training and extension programs. Providing training in environmental and social awareness and environmental and social requirements of ESRDF helps local beneficiaries better appreciate environmental and social concerns and may help local communities better prepare environmentally low-impact subprojects.

3.3 Subproject Formulation: Screening

Subproject formulation includes both the identification of fundable subprojects and transformation of subproject concepts into subproject application documents. Subproject formulation may be undertaken by a variety of actors. Ideally, this will be a local community-based organization, but assistance is often augmented by contracted NGOs, governmental organizations, or by ESRDF staff themselves.

The formulation step is designed to ensure the preparation of a subproject proposal that will be essentially complete and ready for appraisal or technical evaluation by ESRDF. Consequently, it is important for the formulator to screen environmental and social impacts at this point in the subproject cycle, develop alternative designs if possible, suggest mitigation measures, and put in place plans for monitoring the subproject.

Environmental screening entails classifying subproject proposals into one of several categories of likely environmental impacts, and serves two very important purposes. On the one hand, it helps identify early in the subproject cycle those subprojects with potential environmental and social impacts so that adequate attention can be given to the development of appropriate mitigation measures. On the other hand, an effective screening can identify subprojects which have few or no environmental or social consequences so that they can be excluded from unnecessary and costly review.
Incorporating EA into the ESRDF Subproject Cycle

ESRDF uses screening criteria for SSI, RWSS and SI subproject categories. It is recommended that these screening categories be refined further into four possible screening categories, which are described more fully in the following sections:

- No further environmental assessment
- Environmental review (ER)
- Limited environmental assessment (LEA)
- Environmental assessment report (EA report)

All of these categories need to address the most current World Bank Safeguard policies in effect (outlined in Box 2.1). The large number of subproject proposals typically received by ESRDF mandates that the environmental and social screening process be standardized to some degree, otherwise this part of the evaluation can create bottlenecks in subproject processing. Non-specialists can do the initial screening of proposals, using a standardized process; an environmental and social background is not necessary if screening procedures are simple and clear. It is important, however, that all proposals be subjected to this screening and placed in the appropriate environmental category.

Screening can be accomplished using checklists that cover all types of subprojects where little or no information about specific subprojects is provided.

In such a checklist, subproject type is essentially the sole basis for determining what kind of environmental assessment is required. Table 3.1 is an example of such a checklist adapted for ESRDF. This type of approach is certainly useful for quickly eliminating certain types of subprojects from any further environmental consideration, and can cover most conceivable ESRDF subprojects.
### Table 3.1 Generic Screening Checklist

<table>
<thead>
<tr>
<th>Subproject Type</th>
<th>None</th>
<th>ER</th>
<th>LEA</th>
<th>EA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rural Water Supply</td>
<td></td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Fewer than 100 persons</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>More than 100 persons; little or no possibility of aquifer contamination</td>
<td>✓</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>More than 100 persons; possibility of aquifer contamination</td>
<td>✓</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Schools</td>
<td>✓</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Minor rehabilitation</td>
<td>✓</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rehabilitation w/ major construction or waste disposal considerations</td>
<td>✓</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>New constructions</td>
<td>✓</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Health Centers</td>
<td>✓</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rehabilitation</td>
<td>✓</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>New constructions</td>
<td>✓</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sanitation (Latrines)</td>
<td>✓</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fewer than 100 persons</td>
<td>✓</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>More than 100 persons</td>
<td>✓</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Drainage</td>
<td>✓</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rehabilitation</td>
<td>✓</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>New Construction</td>
<td>✓</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Small-Scale Irrigation Subprojects</td>
<td>✓</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rehabilitation; no new construction of canals</td>
<td>✓</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Construction of new canals</td>
<td>✓</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Construction of diversion weir</td>
<td>✓</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Construction of small-scale dam</td>
<td>✓</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*ER = Environmental Review. LEA = Limited Environmental Assessment. EA = Environmental Assessment.

The suggested EA instruments are only recommendations; special circumstances in a given subproject may impose use of a stricter instrument, but it probably would never be appropriate to “downgrade” the recommended EA instrument or approach.
3.4 Subproject Formulation: Impact Assessment

The screening process leads to a decision on the appropriate level of environmental and social assessment for the subproject. The four recommended categories mentioned in the last section—no review, environmental review, limited environmental assessment, and environmental assessment—are explained in more detail below. At this stage in subproject formulation the following issues need to be addressed: evaluation of possible impacts, consideration of alternatives, mitigation measures, public consultation on subproject EAs and disclosure to the public, and supervision and monitoring arrangements. A variety of tools can be used in addressing these issues, including matrices, checklists, and reports.

All environmental evaluation analyses should also be concerned with the identification of mitigation measures: feasible and cost-effective actions that can reduce negative environmental and social impacts. The impact assessment should provide details on the proposed mitigation measures for each subproject and how they will be implemented and financed. Analysis of the cost of mitigation measures is critical to subproject costs in budget preparation activities.

Environmental Review (ER)

Environmental review refers to the simplest level of environmental assessment. An ER will be sufficient for the majority of ESRDF subprojects. It does not generally require sophisticated environmental expertise and can be adequately completed by the ESRDF staff themselves.

An ER should move beyond what is required at the screening stage by requiring the use of a checklist to address the general kinds of impacts the subproject in question may have. The ER should lead to a set of mitigation measures which will be specific to the type of subproject in question but not necessarily to the individual subproject.

Only one generic checklist for all types of subprojects is necessary at the ER level. ESRDF does, however, need to prepare supporting material that outlines typical impacts and mitigation measures of each type of subproject.

Limited Environmental Assessment (LEA)

A LEA is required for subprojects considered likely to have some environmental and social impacts that need to be reviewed by an environmental and/or social specialist. A LEA form will be specific to the subproject type, and mitigation measures recommended by the specialist would be incorporated at the design stage.
Often the specialist will also need to visit the proposed site to assess baseline conditions and potential site-specific impacts. For subprojects requiring a LEA, it will be important to monitor the work, both during construction and operation, to ensure that mitigation measures are implemented and that no unforeseen negative impacts are occurring.

**Environmental Assessment (EA)**

An EA would be required in the event of anticipated adverse direct or indirect impacts; such a subproject would generally be subject to national requirements for an EA. ESRDF projects very rarely need a full environmental review; normally a subproject requiring this level of environmental analysis would be refused funding by ESRDF. Subprojects most likely to require an EA report include small-scale irrigation subproject which include dam construction, and subprojects in critical natural habitats or protected areas.

An EA requires the involvement of highly skilled environmental and social experts and usually takes some time to complete. Several site visits would most likely be involved, subproject-specific measures would have to be planned, and a detailed supervision and monitoring plan developed.

Developing terms of reference (TORs) for the environmental and social specialist would be critical, and they would most likely need to be written by a specialist.

The study itself would probably be contracted out and implemented by a third party, and the relevant line ministry would be an integral part of the study.

### 3.5 Appraisal and Approval of Subproject Proposals

#### 3.5.1 Subproject Appraisal

Once formulated, a proposal must be submitted to the appropriate ESRDF administrative office for appraisal. The appraisal process is initiated with an examination of the subproject's eligibility according to the operational guidelines of ESRDF. A critical requirement is that the subproject benefits from community commitment in terms of investment sharing or in-kind contributions. In certain cases, depending on the type of subproject, accompanying technical feasibility information is required from other specialists (for example, water supply systems) or other government authorities.

In many cases, particularly in more complex subprojects, ESRDF staff undertake a field visit and submit a report as part of the appraisal process. When additional technical or feasibility studies are required, ESRDF generally relies on other more specialized government agencies (e.g. Environmental Protection Authority).
The environmental assessment of subprojects should ideally be undertaken during project formulation so that the review the EA documents (screening decision, checklists, studies, etc.) can be completed a determination made whether the suggested environmental measures are appropriate. Where significant impacts are predicted and a field visit is mandatory, it may be appropriate to contract a consultant to undertake a more detailed environmental assessment. In the event of obvious and significant environmental or social problems, the proposal should not be allowed to pass through the evaluation stage in the subproject cycle until these problems are adequately addressed.

3.5.2 Subproject Approval

The typical ESRDF subproject cycle usually admits three possible outcomes of the appraisal stage: acceptance, request for reformulation, or rejection. The decision whether to approve the subproject must be based on a broad range of criteria determined by ESRDF to allow it to best accomplish its mandate as a poverty reduction financing mechanism. These will include non-technical elements such as conformity with targeting guidelines and evaluation of community support and commitment. Technically and financially the subproject must be sound and sustainable. Typically there is little consideration of environmental feasibility at this stage, therefore it is important to adequately address these issues during project formulation and appraisal. However, a mandate at the approval stage to evaluate environmental and social aspects of the subproject creates an important check on the quality of work of the project evaluation unit; therefore ESRDF should ensure a minimum capacity for environmental review at the project approval stage.

3.6 Subproject Implementation

Upon approval, and depending on ESRDF, numerous administrative actions are required for management review, financial commitments, contracting, and allocations of funds. Arrangements are made for contracts to be prepared and signed by appropriate parties and financing agreements signed with implementing agencies or beneficiary representatives. Implementation arrangements can be made with various parties. Procedures for procurement, disbursements, reporting, and the need to maintain accounts are mandatory.

The implementing agency is the entity that is legally entrusted with the task of executing the subprojects. These may include subproject management committees representing the beneficiary community, voluntary organizations, private contractors, or local government organizations. Agreements and procedures for maintaining the assets funded by ESRDF, and responsibilities
and arrangements for covering recurrent costs must be specified in this component.

Most of the arrangements regarding construction, implementation, and monitoring are contained in a legal contract signed between ESRDF and the implementing agency. It is critical that the results of the previous EA process (special mitigation measures, design specifications, supervision plans, and monitoring arrangements) also be duly incorporated into the legal contract.

In addition to special measures that may need to be included in the contract, ESRDF will find it very advantageous in the future to prepare a standard set of environmental clauses to be included in each contract. If necessary, these could be prepared individually for different categories of subprojects.

3.7 Environmental Monitoring and Evaluation

Monitoring is the systematic measurement of how a subproject is performing and is part of the overall supervision of a subproject. In this document, environmental monitoring is only referred to; that is, review of the environmental impacts of a subproject and whether and how well mitigation measures are being implemented during construction. Evaluation, as used in this document, refers to the ex post review of how well a subproject has addressed environmental considerations once it is in operation.

3.7.1 Subproject Monitoring

Monitoring will usually involve field visits. For the purpose of environmental objectives it is important to determine that mitigation measures are being properly implemented, that environmental contractual measures are being respected, that construction is proceeding in accordance with the agreed design standards, and that no unforeseen negative impacts are occurring as a result of subproject execution. Monitoring has been separated from implementation in the ESRDF Subproject Cycle depicted in Figure 3.1, but actually the monitoring process begins with supervision of implementation. In fact, the bulk of monitoring activities may take place during that part of the subproject cycle.

Environmental mitigation measures and specific monitoring requirements should be determined or at least outlined during project formulation and finalized during project evaluation. It is common, however, for a substantive gap to exist between what is proposed as mitigation measures and what is actually carried out in the field. It is important, therefore, that monitoring requirements be adequately reflected in contractual obligations, and that sanctions for noncompliance with mitigation measures are spelled out in these contracts.
Although the current Operation Manual specifies a frequency for monitoring after subproject completion, a standardized form should be developed by ESRDF for environmental monitoring. This form/report must be completed in parallel with the ESRDF subproject reporting cycle and submitted to the appropriate environmental specialists or oversight agency.

For monitoring purposes it is important to have some environmental and social capacity available within ESRDF preferably at the project implementation level (supported through a designated Central Office unit). Monitoring work may also be contracted out to specialists. Government ministries or departments may, in some cases, play a role in monitoring activities. A environmental coordination unit existed under the earlier ESRDF Central Office structure but was not maintained subsequent to the departure of the designated ESRDF specialist coordinator. However, ESRDF recently reported that this position has been replaced with an ex ESRDF Regional Manager, and that the unit is functioning again.

In the future, it would be advisable that the communities themselves make arrangements for one or more persons to be responsible for monitoring a subproject’s performance during operation and for ensuring that no negative environmental effects are resulting from the subproject. For example, in water supply subprojects, at least one member of the community, perhaps selected on a rotating basis, should be responsible for ensuring that the water source is properly protected. This individual should, when possible, be trained in performing basic water quality tests. Such commitment from the community is critical to the overall sustainability of the subproject, and particularly to the environmental soundness of the work.

### 3.7.2 Subproject Evaluation

As defined here, subproject evaluation refers to the ex post review of a subproject to determine if it has met its stated objectives. From an environmental perspective, evaluation looks at the final negative environmental impact (which is a result of how well expected impacts were minimized and how unexpected impacts were handled) and at the positive environmental benefit. Were the expected benefits fully realized? Two types of evaluation are of interest: evaluations of individual subprojects, and evaluation of the entire portfolio.

Most ESRDF subprojects include periodic site visits by ESRDF staff as part of the evaluation process. Upon completion of each subproject, a final report is submitted. Follow-up is directed at two key elements: the physical state of the subproject, and the extent of beneficiary use and satisfaction with the subproject.
From a social and environmental perspective, the evaluation process must also look at the success or failure of subprojects in terms of how known environmental or social impacts were minimized, and evaluate the significance of unsuspected or unexpected impacts. If problems are identified, the evaluation report should assist beneficiaries in resolving the problem. The evaluation process should also be designed to promote changes in the targeting and promotion stages, and possibly to suggest changes in other institutional areas.

In addition to the traditional monitoring and evaluation of subprojects that is required, ESRDF management should also consider undertaking a periodic environmental review of the entire portfolio. Ideally, there should be annual reviews performed by an in-house environmental specialist. Additionally, the World Bank recommends that an independent evaluation or supervision mission be performed by an outside environmental expert preferably on an annual basis.
4. INSTITUTIONAL AND MANAGEMENT ISSUES

4.1 Institutional and Staffing Considerations

Several approaches with regard to institutional arrangements are possible for the environment and social function within ESRDF. One past approach was the creation of an ESRDF “Central Office Core Environment Team” where a senior project officer within ESRDF was designated to strengthen the Central Office ability to review environmental issues. Unfortunately this senior project officer left ESRDF midway during the project and was not replaced.

It is essential that ESRDF form an Environmental and Social Unit (ESU) to strengthen the environmental and social review of subprojects. Environmental and social functions need to be taken into consideration at almost every operational level. The ESU should not be tied to a single operational unit and should be high enough in the institutional hierarchy to be able to intervene effectively throughout ESRDF. A unit attached to the Central Office is recommended. A centralized unit still requires a strong understanding of environmental and social issues within each of the operational regional units (subproject formulation, evaluation, etc.).

In consideration of personnel and resource constraints, it is recommended that the unit be made up of two qualified staff, either recruited within existing ESRDF regional staff (if qualified) or recruited from outside. One individual (Environmental Specialist) must be qualified in environmental issues and the other individual (Social Development Officer) must be qualified to address social concerns. The primary role of this unit will be to work closely with regional project officers during the subproject appraisal cycle, to insure that environmental and social review is carried out effectively during subproject processing and contributes to subproject sustainability.

It is critical that the costs of operating a functional environmental and social unit be included in the operating budget of ESRDF with sufficient funds allocated for establishing, equipping, and implementing the unit.

4.2 Training

Environmental and social training within ESRDF should focus on three target audiences: The ESRDF staff, beneficiaries, and executing agencies.
4.2.1 Training ESRDF Staff

Creating better appreciation of the environmental and social evaluation process within ESRDF should be made a priority. There is an important need to provide sound environmental and social awareness training for all staff, and more specific training for those individuals dealing directly with environmental and social issues. Staff should also be trained on the importance of compliance with the World Bank's Safeguard polices.

Training requires a special emphasis on the need to improve environmental and social screening of subprojects so that staff can understand how this screening can be effectively applied in the field. Training must include ESRDF senior management and regional staff.

4.2.2 Training Beneficiaries and Executing Agencies

Training of beneficiaries can make the difference between well-functioning, sustainable subprojects and those that encounter problems or fail to fulfill their objectives. Local government officials and staff, community leaders, NGO representatives, and contractors can be brought together for short workshops. These workshops should focus on environmental and social issues related to improved subproject formulation and design at a local administrative and technical level.

The majority of ESRDF subprojects are implemented through contracts awarded to the private sector and other government executing agencies. Contractors, construction companies, and local enterprises must be required to comply with ESRDF guidelines and requirements. One means of strengthening this compliance is to provide further training to these audiences in the form of workshops and improved guidance on environmental and social evaluation.

Training teams, working with the environmental and social unit of ESRDF, can conduct sessions lasting one to two days in each of the regions of the country. Attendees should gain a better understanding of the issues related to environmental, social and public health considerations in subproject planning, design, and implementation. These workshops should target municipalities, private sector construction operations, NGOs, and other relevant stakeholders.

A viable training team might consist of senior environmental and social specialists familiar with environmental and social assessment issues in small infrastructure subprojects, a senior civil engineer familiar with how ESRDF subprojects are administrated and implemented, and a meeting facilitator who is responsible for logistical planning and facilitation.

To address cultural resource issues training team might also include an anthropologist and other social scientists familiar with cultural norms of the target groups and regions. Understanding local cultural norms helps focus the
design of the environmental and social assessment process. Moreover, to address issues of land acquisition and resettlement, it is recommended that the training team also include a resettlement specialist. This individual must be familiar with the Ethiopian Constitution and Ethiopian practices of land tenure and compensation, and also be familiar with the Bank's safeguard policy OP 4.12, and the recently prepared ESRDF Resettlement Policy Framework.

ESRDF staff should carefully determine the most appropriate manner of delivering training. In many cases, workshops will be necessary; in others, booklets, manuals, and other written materials may suffice. Often an interactive, hands-on training will be most helpful, particularly when working with beneficiaries. It is essential that the proper beneficiaries, such as women, receive training.