INITIAL ENVIRONMENTAL EXAMINATION
IEE Building Alliances for Local Advancement, Development, and Investment (BALADI)

PROGRAM/ACTIVITY DATA:
Country Code-SO: 268-001
Foreign Assistance Objective: Governing Justly and Democratically
Economic Growth
Country or Region: Lebanon
Activity Name: Building Alliances for Local Advancement, Development, and Investment (BALADI)
Funding Begin: 2012    Funding End: 2017    LOP Amount: $25,000,000

Sub-Activity Amount:

IEE Prepared by: Christine Sayegh, Project Management Specialist    Date: 16/2/2012
IEE Amendment (Y/N): N    If “Yes,” Number & Date of Original IEE:

Environmental Media and/or Human Health Potentially Impacted (check all that apply):
air  water  land  biodiversity  human health  other  none

Environmental Action(s) Recommended: (Check all that apply)
Categorical Exclusion:  Deferral:  
Positive Determination:  Negative Determination with Conditions:  
Exemption:  

BACKGROUND

USAID will implement a new program entitled BALADI from 2012 until 2017. Under the BALADI program USAID will award cooperative agreements to up to four local Non Governmental Organizations (NGOs) who will support Lebanese municipal projects and activities through an in-kind competitive grants program for municipal projects that improve governance and respond to citizen socio-economic needs.

SUMMARY OF FINDINGS

Depending on the content of the municipal projects that are competitively solicited, evaluated, and selected by the BALADI program, USAID envisioned assistance is expected to include one, more, or all of the following types of activities:

a. Technical assistance and training to design and implement local development plans and income generation projects, complete feasibility studies, and/or engagement with NGOs, communities, citizens or the private sector;
b. Provision of equipment for implementing community projects in tourism, technology, other economic sectors or municipal service delivery sectors;
c. Small-scale infrastructure and or construction. For example, activities could include establishment of public gardens and community sports centers, rehabilitation of public schools, erection of hangars to house income generating equipment and activities, rehabilitation of irrigation canals, and establishment of small-scale eco-tourism lodges.

Table 1 lists activities covered in this IEE as well as the recommended threshold decisions.

Table 1: Proposed program activities and recommended threshold decisions

<table>
<thead>
<tr>
<th>No</th>
<th>Activities</th>
<th>Effect on Natural or Physical Environment</th>
<th>Determination and Reg. 216 actions required</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>All project actions and activities that don’t have an effect on the natural or physical environment. This includes: technical assistance, training programs except to the extent such programs include activities directly affecting the environment (such as construction of facilities, assistance in use of crop protection products, etc.); consultations, participant training, document transfers and information dissemination, analysis, studies, research and workshops (Activities under types a; and some for type b). Specifically, this might include: - Grants for the procurement of environmentally-neutral services and commodities, such as for study tours, participation in trade fairs, development and printing of materials, software development, advocacy grants; - Development and implementation of municipal strategic plans, improvement of business regulatory environment, municipal service provision, municipal asset management; - Facilitating access for businesses to consulting services, access to information and technologies, assisting with marketing and sales promotion;</td>
<td>No effect</td>
<td>Categorical Exclusion, no actions required</td>
</tr>
</tbody>
</table>
- Improving employment services, developing workforce skills.
- Procurement of equipment that do not have an impact on the environment such as equipment for schools; furniture for rural tourism lodges; food processing equipment.

### II.

<table>
<thead>
<tr>
<th>For small-scale activities and procurement of services and commodities that normally don't have a significant effect on the environment (activities under types b and c), such as, for example:</th>
<th>Potential for a significant adverse effect of one or more activities</th>
<th>Negative Determination with Conditions; Positive Determination</th>
</tr>
</thead>
</table>
| • small-scale potable water and sewage projects;  
• small-scale irrigation and drainage system rehabilitation  
• small-scale rehabilitation/construction;  
• procurement of equipment and machinery, technologies, materials, computers and electronics, and services that may have a potential for hazardous environmental impact;  
• conducting works at a site with a historic, archeological, cultural, or social importance, or with a unique habitat;  
• agro-processing (including sorting, grading, packing, dairy processing, seed processing facilities, cold storage facilities); and  
• all other projects having a similar effect on the environment. | | Environmental Review and Assessment Checklist (ERAC) is required to identify environmental effects, develop Environmental Mitigation and Monitoring Plans, confirm /neglect a significant adverse effect. If confirmed, a Scoping Statement (SS) and Environmental Assessment (EA) will be done by the implementer prior to start of activities. Terms of Reference (TOR) for Scoping Statement and EA Report must be reviewed by MEO and approved by Asia BEO. For references please see footnote1. |

The Implementer(s) will ensure that equipment is used in an environmentally sound and safe manner and properly disposed of at the end of its useful life in a manner consistent with best management practices according to U.S., European Union or equivalent standards acceptable to USAID.

The Implementer(s) is required to ensure that environmental safety and quality certificates and permits conforming with national and/or internationals standards.

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wds.worldbank.org/external/default/WDSContentServer/WDSP/IB/1999/06/03/000094946.99940980502833
For activities that normally have a significant effect on the environment, activities under types (c) such as, for example:

- irrigation and drainage projects
- new land development and improvements;

Potential for a significant adverse effect of one or more activities

Positive Determination

ERAC is required to identify environmental effects, confirm/neglect a significant adverse effect. If potentially significant adverse environmental impacts are expected as a result of the process of completing an environmental checklists, TOR for Scoping Statement will be prepared, reviewed and approved by the MEO, public consultations with potentially affected people and relevant stakeholders will be conducted; an outcome of the Scoping Statement will be either PD and TOR for EA, where both TOR for EA and EA report itself shall be reviewed and concurred to by the MEO and approved by the Middle East BEO; or the Positive Determination will be requested to be reversed to Negative Determination with conditions. For references please see footnote 1.

a) Recommended Action: Categorical Exclusion (approximately 15% - 20% of funding).

Pursuant to 22 CFR 216.2(c)(3), the originator of the activities has determined that program activities focusing on technical assistance and training, and other similar types of environmentally neutral actions, consist of types of interventions entire within the categories listed in paragraph (c) (2), “Categorical Exclusions,” of Section 216.2, “Applicability of Procedures,” of Title 22 CFR Part 216, “AID Environmental Procedures,” and therefore are categorically excluded from any further environmental review requirements. The originator of the proposed action has further determined that the proposed activities are fully within the following classes of actions:

- Education, technical assistance, or training programs except to the extent such program includes activities directly affecting the environment (such as construction of facilities, etc.). [22 CFR 216.2(c)(2)(i)];
- Analyses, studies, academic or research workshops and meetings. [22 CFR 216.2(c)(2)(iii)];
- Document and information transfers. [22 CFR 216.2(c)(2)(v)];
• Studies, projects or programs intended to develop the capability of recipient countries to engage in development planning, except to the extent designed to result in activities directly affecting the environment (such as construction of facilities, etc.). [22 CFR 216.2(c)(2)(xiv)].

b) Recommended Action: Negative Determination with Conditions (NDC, approximately 30% to 35% of all funding) for procurement activities under Section II of Table 1, when following normal good practices, engineering methods, and standard instructions will help to avoid potential environmental problems. This includes procurement of computers and other electric and electronic equipment; and procurement of commodities. The proposed action is that the Implementer(s) should provide evidence that equipment, commodities, and materials procured with USAID assistance are used in a safe way and that the recipient is following all applicable national and international environmental laws (as described in Section II, Table 1).

c) Recommended Action: Negative Determination with Conditions (NDC, approximately 40% to 45% of all funding) for other activities under Section II of Table 1 that have a potential for an adverse impact on the natural or physical environment. The originator of the action has determined that pursuant to 22 CFR 216.2(d)(2), activities such as small infrastructure improvements, small-scale construction and rehabilitation of facilities, small-scale rehabilitation of irrigation and potable water systems, set-up of demonstration plots, small road improvements, small-scale drainage and sewerage projects, and other projects under activities type c, may have the potential for significant adverse environmental impacts. The Implementer(s) will develop an Environmental Manual (EM), which inter alia will have environmental screening, selection and eligibility criteria, sample environmental review forms and standard environmental mitigation and monitoring measure commensurate with the nature and scope of proposed activities. The EM will be approved by COR and MEO. Based on the approved EM, BALADI Implementer(s) will conduct an environmental review to document in an ERAC existing environmental concerns and foreseeable environmental effects resulting from the activity and develop an Environmental Mitigation and Monitoring Plan (EMMP). Both the ERAC and EMMP will then be approved by the COR and MEO, in consultation, when warranted, with the Asia and OAPA Regional Environmental Advisor (REA/Asia & OAPA). The Standard Conditions List in Annex 1 of this IEE may be used as a guide in developing MMP.

The BALADI program will not provide equipment and training to farmers on the safe and sound use of agro-chemicals or pesticides, and will not support the purchase of any agro-chemicals or pesticides.

Implementer Procedures:

In addition to the Environmental Review and Assessment Checklist (ERAC) (Attachment 1), the Implementer(s) will employ the following processes for all relevant activities:

• Each activity should be conducted in a manner consistent with good design and implementation practices described in USAID Environmental Guidelines for Small-Scale Activities in Africa, 2nd edition as provided at: http://www.encafrica.org/egssaa.htm; IFC Environmental, Health and Safety Guidelines. See Footnote 1.
The Implementer(s) will include environment compliance considerations into all aspects of the program implementation and will promote and train local counterparts on environmental requirements and standards across all of the program's activities. Such proposed activities will be included into annual work plans, and results will be reported in annual reports.

The Implementer will develop an Environmental Manual (EM) which inter alia will have environmental screening, selection and eligibility criteria, sample environmental review forms and standard environmental mitigation and monitoring measure commensurate with the nature and scope of proposed activities. The EM will be approved by COR and MEO. Based on the approved EM, BALADI Implementer(s) will conduct an environmental review to document in an Environmental Review and Assessment Checklist (ERAC) existing environmental concerns and foreseeable environmental effects resulting from the activity and develop an Environmental Mitigation and Monitoring Plan (EMMP). Both the ERAC and EMMP will then be approved by the COR and MEO, in consultation, when warranted, with the Asia and OAPA Regional Environmental Advisor (REA/Asia & OAPA).

Host country environmental, Occupational Health and Safety (OHS) and other relevant laws and regulations, standards, norms and best practices for environmental protection and management will be followed in implementing the activities. Implementer will ensure compliance by its staff, subcontractors, and sub-grantees with USAID regulations, policies, procedures and acceptable best practice as well as compliance with applicable international environmental obligations of Lebanon.

The Implementer(s) shall also ensure that the best environmental management practices for construction, excavation, dust control, and noise control are adopted; that any solid wastes generated from activities are collected and transferred to appropriate waste management facilities; and that any wastewater generated from activities is properly disposed in community sewage networks and leading to available sewage treatment plants.

Environmental conditions in this IEE will be incorporated into the award performance criteria for all partners and implementers, including subcontractors and grantees.

Resource Allocation, Training and Reporting requirements:
The award with each Implementer will include a requirement to follow all recommendations of this IEE. The Implementer will be responsible for training his staff, grantees, subcontractors, and counterparts on the contract's environmental requirements and for ensuring their compliance with these requirements.

The Implementer(s) will have the following documentation and reporting requirements associated with the environmental compliance:

- **Annual Work Plans** will have a section on the planned activities related to environmental compliance.
- Environmental Manual will be developed by the Implementer and approved by USAID prior to the launch of the identified activities.
- Progress Reports will have, where appropriate, a brief section on the status of activities related to environmental compliance and results of environmental monitoring, and any major modifications/revisions to the project. If environmental review process established in the EM results in a finding of potential significant environmental impact, REA/Asia & OAPA will be consulted on the EA process, and when warranted, a Scoping Statement and Environmental Assessment will be prepared and submitted by the Implementer for BEO approval prior to start of activities.
- Final Report will have a section that will summarize program’s activities related to environmental compliance and will describe results, including information on any positive or negative environmental effects of program activities.
- Brief Reports will be submitted to USAID at the completion of each NDC activity, and will include site visit reports which document that approved mitigation procedures were followed throughout implementation of the subject work. All such reports and documentation will be submitted to the Contracting Officer Representative (COR) and Mission Environmental Officer (MEO).

**Limitations of the IEE:**
This assistance doesn’t cover activities involving:

1. Assistance, procurement or use of genetically modified organisms (GMOs) will require preparation of biosafety assessment (review) in accordance with ADS 201.3.12.2(b) in an amendment to the IEE approved by Asia BEO.
2. DCA or GDA programs.
3. Procurement or use of Asbestos Containing Materials (ACM) (i.e. piping, roofing, etc), Polychlorinated Biphenyl’s (PCB) or other toxic/hazardous materials prohibited by US EPA as provided at: [http://www.epa.gov/asbestos](http://www.epa.gov/asbestos) and/or under international environmental agreements and conventions, e.g. Stockholm Convention on Persistent Organic Pollutants as provided at: [http://chem.pops.int](http://chem.pops.int)
4. Provision of equipment and training on the safe and sound use of agro-chemicals or pesticides, and the purchase of any agro-chemicals or pesticides.

**Revisions:**
Pursuant to 22 CFR216.3 (a)(9), if new information becomes available which indicates that activities to be funded by the Program might be “major” and the Program’s effect “significant,” the threshold decisions for those activities listed above with Negative Determination will be reviewed and revised by the originator of the project and submitted to the Bureau Environmental Officer for approval and, if appropriate, an environmental assessment will be prepared.
APPROVAL OF RECOMMENDED ENVIRONMENTAL ACTIONS:

CLEARANCE:

Mission Director
Jim Barnhart
4/6/2012

Economic Growth Office Director
Heath Cosgrove
4/5/12

Mission Environmental Officer
Sana G. Saliba
4/3/2012

Regional Environmental Advisor/Asia

Concurred
Andrei Barannik
email 4/3/2012

APPROVAL:

Bureau Environmental Officer
Robert MacLeod
Date: 4/18/12
Approved: □
Disapproved: □

IEE Building Alliances for Local Advancement, Development, and Investment (BALADI) Program

DISTRIBUTION:
Mission Environmental Officer
IEE File
Annex 1

Standard Conditions for Small-Scale Construction

Small-scale construction activities occur in association with a wide variety of development projects financed by USAID. Construction activities include demolition; site clearing; soil grading, leveling and compaction; excavation; pipe and equipment installation; and the erection of physical structures. These activities have the potential to result in significant adverse environmental impacts, but most of those impacts can be mitigated down to acceptable levels through the use of good construction management practices.

These standard conditions have been developed by USAID’s Europe and Eurasia Bureau to ensure that small-scale construction activities do not result in significant adverse environmental impact. When adherence to these conditions is required as a condition of small-scale construction contracts, no significant adverse environmental impact is presumed to result from activity implementation. Project officers, CTOs, Mission Environmental Officers, Contract Officers and implementing organizations must nonetheless be aware that these standard conditions are generic in nature, and that additional potentially significant adverse environmental impacts may be associated with small-scale construction activities. It is the responsibility of the individual USAID missions, and/or their implementing contractors and grantees, to monitor construction and to ensure that significant adverse environmental impacts do not result from these programs.

For the purposes of this guidance, “small-scale” construction activities are defined here as those that cost less than $100,000 per construction project. Because of the exceptionally diverse physical conditions under which Bureau construction activities take place, and the very broad kinds of construction that take place, the following standard conditions are to be followed “as practicable and appropriate.”

Standard Conditions for Small-Scale Construction Projects

- Establish and adhere to construction timetables that minimize disruption to the normal activities of the construction area.
- Coordinate truck and other construction activity to minimize noise, traffic disruption and dust.
- Develop and implement appropriate human health and worker safety measures during construction.
- Post construction timetables and traffic diversion schedules at the project site.
- Where significant environmental impacts may occur, document and photograph pre-construction and post-construction conditions.
- Avoid subsidence and building stabilization problems through proper foundation excavation, fill placement and borrow pit management.
- Fill should avoid pockets of segregated materials, it should use well-graded materials, and it should be compacted to recognized standards.
- Backfill and/or restore borrow areas and quarries before abandonment unless alternative uses for those sites are planned.
- Control runoff into borrow pits.
- Provide temporary sanitation at the construction site.
- Recover and replant topsoil and plants as practicable.
- Set protocols for vehicle maintenance to control contamination by grease, oil and fuels.
- Install temporary erosion control and sediment retention measures when permanent ones either are not feasible or are delayed.
- Avoid pollution of waterways with stockpiled construction materials.
- Cover stockpiled construction materials, as practicable.
- Place solvents, lubricants, oils, and other semi-hazardous and hazardous liquids over a lined area with appropriate secondary containment in order to contain spillage. Test the integrity of bulk storage tanks and drums, and secure valves on oil and fuel supplies.
- Build appropriate containment structures around bulk storage tanks and materials stores to prevent spillage entering watercourses.
- Handle, store, use and process branded materials in accordance with manufacturer’s instructions and recommendations.
- Take waste materials to appropriate, designated local disposal areas.
  - Avoid the use of cement; paper; board; sealant and glazing formulations; piping; roofing material; or other materials containing asbestos.
  - Do not use PCBs in electric transformers.
  - Avoid sealant and glazing formulations that use lead as a drying agent.
  - Use lead-free paint, primers, varnishes and stains.
  - Minimize the use of solvent-based paints, or replace with water-based materials.
  - Minimize burning of waste materials.
  - Employ techniques to minimize dust and vapor emissions as practicable (e.g., road speed limits, air extraction equipment, scaffolding covers, road spray).
  - Recycle wastewater to the extent practicable.
  - Build tanks or other separators for silt-laden material prior to allowing significant outflow into watercourses.
  - Build collection channels leading to oil and/or silt traps, particularly around areas used for vehicle washing or fuelling.
  - Seal or remove abandoned drains to minimize water contamination.
  - Segregate waste which can be salvaged, re-used or recycled.
  - Introduce measures to control and minimize the volume of waste on site.
  - Employ sensitive strategies with regard to trees, watercourses, plant or animal species or habitats, and important historical and archaeological features.
  - As practicable, landscape construction sites in a way that is appropriate to local conditions.
  - Minimize the disturbance of, and reduce the spread of, ground contaminants.
  - Do not build structures in sensitive areas such as wetlands.
  - If waste will be buried on site, avoid siting burial pits up-gradient from drinking water sources such as wells. Pits should be lined with impermeable material (e.g., clay or polyethylene).
  - If waste will be buried on site, avoid siting waste pits where water tables are high or underlying geology makes contamination of groundwater likely. If no alternative site is available, ensure that pits are lined with impermeable material.
• Provide for the safe disposal of gray water from bathing and washing.

**Additional Conditions to Minimize Impact of Parking Facility Construction**

• Compact substrate materials appropriately.
• Where applicable, apply sealant at earliest possible time to limit runoff from unsealed asphalt.
• Provide adequate drainage for the surface area to be paved.
• Return unpaved areas to original or improved contours following construction.
• Re-vegetate areas where vegetation was removed or destroyed during construction.
• Provide vegetation strips within parking lot where possible, including shade trees.
• Retain tree(s) along parking facility and adjacent roadsides.
Standard Conditions for Small-Scale
Road Rehabilitation and Maintenance Activities

Road rehabilitation and maintenance activities occur in conjunction with a variety of community infrastructure and rural development projects financed by USAID. Road rehabilitation and maintenance activities include excavation; soil grading and leveling; fill placement and compaction; placement of base course and road surface materials; and construction of culverts, bridges and surface drainage structures. These activities have the potential to result in significant adverse environmental impacts, but most of those impacts can be mitigated down to acceptable levels through the use of good design and construction practices.

These standard conditions have been developed by USAID’s Europe and Eurasia Bureau to ensure that small-scale road rehabilitation and reconstruction activities do not result in significant adverse environmental impact. When adherence to these conditions, as practicable and appropriate, is required as a condition of road rehabilitation and maintenance contracts, no significant adverse environmental impact is presumed to result from activity implementation.

Project officers, CTOs, Mission Environmental Officers, Contract Officers and implementing organizations must nonetheless be aware that these standard conditions are generic in nature, and that additional potentially significant adverse environmental impacts may be associated with road rehabilitation and maintenance activities. It is the responsibility of the individual USAID missions, and/or their implementing contractors and grantees, to monitor road rehabilitation and maintenance activities and to ensure that significant adverse environmental impacts do not result.

This guidance applies only to road rehabilitation and maintenance activities that (1) cost less than $250,000 per individual project and (2) do not involve realignment of a road outside of its existing right of way (ROW). Because of the exceptionally diverse physical, biological and social environments in which Bureau road rehabilitation and maintenance projects take place, and the broad kinds of rehabilitation and maintenance activities that are financed, these standard conditions are to be followed “as practicable and appropriate.”

**Standard Conditions for Road Rehabilitation and Maintenance Projects**

**Noise, Traffic Disruption and Dust**

- Establish and adhere to construction timetables that minimize disruption to the normal activities of the construction area. Post construction timetables and traffic diversion schedules at the project site, as appropriate.
- Coordinate truck and other construction activity to minimize noise, traffic disruption and dust.

**Human Health and Worker Safety**
• Develop and implement appropriate human health and worker safety measures during construction.
• Provide workers with appropriate safety equipment.
• Take safety precautions to protect workers and others from injury by flying or falling rock, slope failures and avalanche.
• Explore off-site accommodation for crew.
• Keep camp size to a minimum.
• Provide temporary sanitation on construction sites.

Ecological and Historical Considerations

• Identify and avoid areas in the project impact zone that may contain important ecological, archeological, paleontological, historic, religious or cultural resources, including forests, wetlands and areas of high biological diversity or threatened species habitat.
• Have construction crews and supervisors be alert for buried historic, religious, and cultural objects, and provide them with procedures to follow if such objects are discovered. Provide incentives for recovery of objects and disincentives for their destruction.
• If impact to sensitive areas cannot be avoided during road reconstruction, involve ecologists, archeologists and engineers in evaluating alternatives and minimizing impacts.
• Where significant environmental impacts may occur, document and photograph pre-construction and post-construction conditions.

Project Design

• Use established design standards for each facet of construction and related activities, e.g., road bed, road surface, drainage, erosion control, re-vegetation, stream crossing, sensitive areas, steep slopes, material extraction, transport and storage, construction camps, decommissioning, etc.
• Minimize use of vertical road cuts even though they are easier to construct, and require less space than flatter slopes. The majority of road cuts should have no more than a 2:1 to 1:1 slope to promote plant growth. Vertical cuts are acceptable in rocky material and in well-cemented soils, if such cuts are stable according to established slope stability criteria.
• Water the road prior to compaction to strengthen the road surface.
• When possible, delay compaction activities until the beginning of the wet season or when more water is available.
• Use water from settling basins and retention ponds for road maintenance.
• Drive roads after moderate rains to identify areas that collect or gully water. Mark and redesign/rehabilitate as necessary.
• Reshape eroded or culled surfaces so that water will no longer follow the course of the roadway.
• Conduct periodic independent inspection of work to see that it conforms to original plan and design specifications. Provide incentives and disincentives to ensure conformance.

Excavation/Borrow Pits
• Use material from local road cuts first, since it produces a fairly durable aggregate for both surface stabilization and erosion control and is very cost effective.
• Place fence around borrow pit excavations, as necessary.
• Ensure excavation is accompanied by well engineered drainage to control runoff into the pit.
• Develop specific procedures for storing topsoil, and for phased closure and reshaping and restoration of the pit when extraction has been completed. Include plans for segregating gravel and quarry materials by quality and grade for possible future uses. Where appropriate, include reseeding or re-vegetation to reduce soil erosion, prevent gulleying and minimize visual impacts.
• Discuss with local communities the option of retaining quarry pits as water collection ponds to water cattle, irrigate crops or for similar uses. Issues of disease transmission, and prohibiting the use of pit water for human consumption, bathing, and clothes washing, should be highlighted.
• Decommission/restore area so it is suitable for sustainable use after extraction is completed.
• Backfill and/or restore borrow areas and quarries before abandonment if alternative uses for those sites are not planned.

Vegetation Clearing and Revegetation

• Carry out earth moving and removal of vegetation only during dry periods.
• If vegetation must be removed during wet periods, wait until just before actual construction.
• Store topsoil and preserve removed plants for later use.
• Re-vegetate with recovered plants and other appropriate local flora immediately after equipment is removed from a section of the site.

Material Storage

• Identify sites for temporary/permanent storage of excavated material and construction materials.
• Avoid pollution of waterways with stockpiled construction materials.
• Cover stockpiled construction materials, as practicable.

Fill and Grade

• Minimize the volume of fill required.
• Raise road surfaces with stable and durable fill material. Grade with inslope, outslope or cambered shape. Install sufficient cross-drains, ditches and settling ponds.
• Use appropriate road surface materials (e.g., asphalt, concrete, gravel) following fill placement, or excavation to design grade.
• Do not fill the flow-line of natural creeks and drainages. Especially in arid areas, design culverts to handle rare high rainfall events.
• Minimize cuts and fills in wetlands.
Drainage and Erosion Control

- Install drainage structures during, instead of after construction. Most erosion associated with roads occurs in the first year after construction. Delaying installation of the drainage features greatly increases the extent of erosion and damage during that time.
- Use outside ditches to control surface water when necessary, but avoid general use as they concentrate water flow and require the road to be at least a meter wider. Install frequent structures, berms or trenches, to divert water upslope of roads into stream channels.
- Install frequent diversion structures, such as water bars, to move water off the road and minimize concentration of water.
- Install drainage crossings to pass water from the uphill to the downhill side of the road. If using culvert pipes, follow accepted sizing and design standards. Where flows are difficult to determine, use structures such as fords, rolling dips, and overflow dips that can accommodate any flow volume and are not susceptible to plugging.
- Stabilize outlet ditches (inside and outside) with small-stone riprap, and/or vegetative barriers placed on contour to dissipate energy and to prevent the creation or enlargement of gullies.
- Install drainage turnouts at frequent intervals, and extend turnout drains far enough to allow water to dissipate evenly into the ground.
- Install drainage ditches or berms on up-hill slopes to divert water away from the road.
- Visually spot check for drainage problems, including accumulation of water on road surfaces, especially after the first heavy rains following rehabilitation and at the end of the rainy season.
- Monitor and maintain drainage structures and ditches including culverts. Clean out culverts and side channels/runouts when they begin to fill with sediment.
- Install temporary erosion control features when permanent ones will be delayed. Use erosion control measures such as hay bales, berms, straw or fabric barriers.
- Stabilize slopes by planting vegetation. Work with agronomists to identify native species with the best erosion control properties, root strength, site adaptability, and other socially useful properties. Set up nurseries in project areas to supply necessary plants. Do not use non-native plants. Use soil stabilizing chemicals or geo-textiles (fabrics) where feasible and appropriate.

Material Disposal

- Break up old road surface material. Remove and dispose of surface material (e.g. asphalt) if necessary, and loosen soil of previous track to accelerate regeneration of vegetation.
- Segregate waste which can be salvaged, re-used or recycled.
- Take waste materials to appropriate, designated local disposal areas.
- Minimize burning of waste materials.
- If waste will be buried on site, avoid siting burial pits up-gradient of drinking water sources such as wells. Pits should be lined with impermeable material (e.g., clay or polyethylene).
- If waste will be buried on site, avoid siting waste pits where water tables are high or underlying geology makes contamination of groundwater likely. If no alternative site is available, ensure that pits are lined with impermeable material.
Hazardous Materials

- Do not use asbestos materials on USAID-funded projects.
- Do not use herbicides on USAID-funded projects without prior written approval.
- Place solvents, lubricants, oils, and other semi-hazardous and hazardous liquids over a lined area with appropriate secondary containment in order to contain spillage. Test the integrity of bulk storage tanks and drums, and secure valves on oil and fuel supplies.
- Build appropriate containment structures around bulk storage tanks and materials stores to prevent spillage entering watercourses.
- Handle, store, use and process branded materials in accordance with manufacturer’s instructions and recommendations.
- Set protocols for vehicle maintenance such as requiring that repairs and fueling occur elsewhere or over impervious surface such as plastic sheeting. Prevent dumping of hazardous materials. Capture leaks or spills with drop cloths or wood shavings. Burn waste oil that is not reusable/readily recyclable, that does not contain heavy metals, and that is flammable.
- Take special precautions to prevent release/dumping of debris, oil, fuel, sand cement, and similar harmful materials.
- Install concrete pads, drains and oil/water separators in areas where vehicle and equipment maintenance and fueling will occur regularly.
- Prevent fuel tank leaks by monitoring and cross-checking fuel levels, deliveries and use; checking pipes and joints for leaks; tightening generator fuel lines; and preventing over-filling of main storage and vehicle tanks.
Standard Conditions for Small-Scale Water and Wastewater Activities

USAID’s Bureau for Europe and Eurasia finances, directly or indirectly, a large number of water and wastewater activities. These occur in both rural and urban areas, and in association with residential, commercial, industrial and medical facilities. Water and wastewater activities have the potential to result in significant adverse environmental impacts, but most of those impacts can be mitigated down to acceptable levels through the use of good siting, design, construction, operations and maintenance practices.

These standard conditions for small-scale water and wastewater activities have been developed by USAID’s Europe and Eurasia Bureau (E&E) to ensure that water and wastewater activities financed by the Bureau do not result in significant adverse environmental impact. When adherence to these conditions, as practical and appropriate, is required as a condition of water and wastewater contracts, no significant adverse environmental impact is presumed to result from activity implementation.

Project Officers, CTOs, Mission Environmental Officers, Contract Officers and implementing organizations must nonetheless be aware that these standard conditions are generic in nature, and that additional potentially significant adverse environmental impacts may be associated with water and wastewater activities. It is the responsibility of the individual USAID missions, and/or their implementing contractors and grantees, to monitor water and wastewater activities and to ensure that significant adverse environmental impacts do not result.

For the purposes of this guidance, “small-scale” water and wastewater activities are defined as those that cost less than $200,000 per individual construction project. Because of the exceptionally diverse physical, biological and social environments under which Bureau water and wastewater projects take place, and the broad kinds of water and wastewater activities that are financed, these standard conditions are to be followed “as practicable and appropriate.”
Standard Conditions for Small-Scale Irrigation Projects

USAID’s Bureau for Europe and Eurasia finances, directly or indirectly, a range of small-scale irrigation projects. These include, inter alia, maintenance and rehabilitation of irrigation infrastructure, construction of weirs, improved water management, and improved irrigation system operations and management. Small-scale irrigation activities have the potential to result in significant adverse environmental impacts, but most of those impacts can be mitigated down to acceptable levels through the use of good siting, design, construction, operations and maintenance practices.

These standard conditions have been developed by USAID’s Bureau for Europe and Eurasia (E&E) to ensure that small-scale irrigation activities financed by the Bureau do not result in significant adverse environmental impact. When adherence to these conditions is required as a condition of project implementation, no significant adverse environmental impact is presumed to result. Project Officers, CTOs, Mission Environmental Officers, Contract Officers and implementing organizations must nonetheless be aware that these standard conditions are generic in nature, and that additional potentially significant adverse environmental impacts may be associated with small-scale irrigation activities. It is the responsibility of the individual USAID missions, and/or their implementing contractors and grantees, to monitor irrigation activities and to ensure that significant adverse environmental impacts do not result.

For the purposes of this guidance, “small-scale irrigation projects” are defined as activities that: (1) cost less than $100,000 per individual project; (2) do not bring significant areas of currently unirrigated land under irrigation; (3) do not involve the construction of new dams, trunk canals, or river training works; and (4) do not involve rehabilitation of existing dams over fifty feet in height.

Because of the exceptionally diverse physical, biological and social environments in which Bureau irrigation projects take place, and the broad kinds of irrigation activities that are financed, these Standard Conditions are to be followed “as practicable and appropriate.”
IRRIGATION SYSTEM IMPROVEMENTS

As a general rule, small-scale irrigation projects should be designed to achieve or promote some or all of the following objectives:

- Better water management, including better water use efficiency and lower water losses
- Better water quality
- Lower sediment loading
- Less erosion
- Less waterlogging and soil salinization
- Improved irrigation system operations and maintenance
- Healthier conditions for irrigation workers.

Specific actions that can be used to avoid or reduce adverse environmental impacts on small-scale irrigation projects are as follows:

**Water Use Efficiency**

- Improve water control through good canal and weir design
- Keep canals, headworks, regulators, modules and water courses free of debris
- Add water storage capacity where water is seasonally scarce
- Improve water depth consistency through improved land leveling
- Ensure the suitability of crops to available water supply
- Monitor groundwater tables when irrigating from groundwater
- Train farmers and system operators in how to improve water use efficiency.

**Water Loss**

- Use drip irrigation where practicable
- Use piping where practicable, instead of canals
- When using canals, employ design standards that limit evaporative loss
- Design canals that are relatively narrow and deep
- Cover open canals
- Line canals to limit water loss through percolation
- Reduce evapor transpiration by keeping canals clear of vegetation
- Monitor and repair leaks from cracked canal and containment structures, broken pipes, faulty valves and similar infrastructure
- Reduce evaporation on center pivot and sprinkler systems by irrigating at the coolest time of day
- Train farmers and system operators in how to reduce water loss.

**Water Quality**
- Use design standards that lower sediment loads in irrigation water
- Identify and monitor water quality parameters with adverse crop and human health impacts
- Train farmers and system operators in how to improve water quality.

**Erosion**
- Use terracing and similar techniques to reduce land surface erosion
- Plan for devices that can protect against scour where water scour potential is an issue (e.g., culverts, drops, chutes, control structures)
- Train farmers on how to reduce land and facility erosion.

**Waterlogging and Salinization**
- Monitor groundwater levels and salinity
- Use sprinkler or drip irrigation systems where possible
- Improve system drainage
- Train farmers to recognize waterlogging and salinization problems.

**Operations and Maintenance**
- As a rule, financing for irrigation infrastructure improvements should not be provided unless appropriate operations and maintenance (O&M) provisions are in place.
- Establish an appropriate maintenance schedule for inspection and reporting performance conditions.
- Periodically review system components to verify that they meet the original design criteria for efficient operations and uniform distribution of water.
- Where appropriate, prepare an O&M Manual before the irrigation system starts operations.
- O&M plans should address, *inter alia*, financial and system power issues.

**Human Health**
- Understand what water-related disease vectors occur in association with the irrigation system, and design system improvements to reduce those vectors
- Don’t use irrigation water as a potable water source
- Line canals and ditches
- Cover or pipe water where possible
- Prevent backwaters or slow-moving water where vegetation and disease vectors are more easily established
- Use application rates that avoid generating areas of standing water
- Keep canals and ditches free of weeds, sediment and snails
- Actively control disease vectors
- Train farmers and system operators to recognize and deal with system characteristics with the potential to adversely affect human health.
Other Irrigation System Conditions

- Design canals to maintain appropriate flow velocities
- Plan for access of canals to facilitate cleaning, sediment removal and vector control
- Design appropriate canal crossing structures at appropriate intervals
- Plan for gates at the lower end of canals so they can be flushed to the nearest drain
- Do not use materials containing asbestos on USAID funded projects.
- Replace lead pipes and joints in delivery system.

STANDARD CONSTRUCTION CONDITIONS

- Establish and adhere to construction timetables that minimize disruption to the normal activities of the construction area.
- Post construction timetables and traffic diversion schedules at the project site
- Coordinate truck and other construction activity to minimize noise, traffic disruption and dust
- Where significant environmental impacts may occur, document and photograph pre-construction and post-construction conditions
- Fill should avoid pockets of segregated materials, it should use well-graded materials, and it should be compacted to recognized standards
- Install temporary erosion control and sediment retention measures when permanent ones either are not feasible or are delayed
- Use proper bedding materials for pipes, and backfill appropriately for the pipeline
- Use riprap (cobbled stone), gravel, or concrete as needed to prevent erosion of drainage structures at the outfall according to established standards
- Do not allow animals to drink directly from water sources
- In coastal areas, maintain withdrawals within safe yield limits to avoid salt water intrusion and well contamination
- Ensure that spilled water and rainwater drain to a soakway or equivalent structure.
- Re-vegetate areas damaged during construction. Do not remove erosion control measures until re-vegetation is completed.
- As practicable, landscape construction sites in a way that is appropriate to local conditions.

EXCAVATION AND BORROW PITS

- Use material from the required excavations first, since it produces a fairly durable aggregate for both surface stabilization and erosion control and is very cost effective.
- Place fences around borrow pit excavations, as necessary.
- Ensure excavation is accompanied by well-engineered drainage to control runoff into the pit.
- Develop specific procedures for storing topsoil, and for phased closure and reshaping and restoration of the pit when extraction has been completed. Include plans for segregating gravel and
quarry materials by quality and grade for possible future uses. Where appropriate, include reseeding or re-vegetation to reduce soil erosion, prevent gullying and minimize visual impacts.

- Discuss with local communities the option of retaining quarry pits as water collection ponds to water cattle, irrigate crops or for similar uses. Issues of disease transmission, and prohibiting the use of pit water for human consumption, bathing, and clothes washing, should be highlighted.
- Decommission/restore areas so that they are suitable for sustainable use after extraction is completed.
- Backfill and/or restore borrow areas and quarries before abandonment if alternative uses for those sites are not planned.

**MATERIAL STORAGE AND HANDLING**

- Identify sites for temporary/permanent storage of excavated material and construction materials.
- Avoid pollution of waterways with stockpiled construction materials.
- Set protocols for vehicle maintenance to control contamination by grease, oil and fuels.
- Build collection channels leading to oil and/or silt traps, particularly around areas used for vehicle washing or fuelling.
- Build appropriate containment structures around bulk storage tanks and materials stores to prevent spillage entering watercourses.
- Build tanks or other separators for silt-laden material prior to allowing significant outflow into watercourses.
- Cover stockpiled construction materials, as practicable.
- Minimize the disturbance of, and reduce the spread of, ground contaminants.
- Handle, store, use and process branded materials in accordance with manufacturer’s instructions and recommendations.
- Segregate construction waste that can be salvaged, re-used or recycled.
- Take construction waste materials to appropriate, designated local disposal areas.
- Minimize burning of waste materials.
- If construction waste will be buried on site, avoid siting burial pits up-gradient from drinking water sources such as wells. Pits should be lined with impermeable material (e.g., clay or polyethylene).
- If construction waste will be buried on site, avoid siting waste pits where water tables are high or underlying geology makes contamination of groundwater likely. If no alternative site is available, ensure that pits are lined with impermeable material.

**HUMAN HEALTH AND WORKER SAFETY DURING CONSTRUCTION**

- Provide workers with appropriate safety equipment.
- Protect workers from injury by flying or falling rock, slope failures and avalanche
- Explore off-site accommodation for crew
- Keep camp sizes to a minimum.
- Provide temporary sanitation on construction sites
- Maintain good first aid capabilities on site.