Day 4 Site Visit Briefings:
“EMMP Development”

Instructions (all groups)

1. ADVANCE HOMEWORK. As advance homework, (a) read the briefing relevant to your group & (b) briefly review the Small Scale Guidelines chapter relevant to the field visit.

2. PREPARATORY GROUPWORK (20 min). As a group, review the IEE conditions provided and discuss the potential impacts they are intended to address. Discuss the possible mitigation/management approaches that can be employed to address these impacts. What are the key factors that determine which measures are appropriate, and their adequacy?

3. IN THE FIELD (3 hrs), (a) ascertain the environmental management and mitigation measures in place with respect to the SO-level IEE conditions that apply to each activity, and (b) attempt to assess their adequacy, given local context and the size and operational characteristics of the project/facility.

4. BACK IN THE CLASSROOM (45 mins) informed by their field observations, develop as a group an EMMP responsive to the IEE conditions—and identify how they would propose to monitor implementation of this EMMP.

Group 1: Bagamoyo District Hospital

Scenario:
For the purposes of this exercise, we assume that Bagamoyo District Hospital (described below) is one of several district hospitals receiving financial and technical assistance under the USAID/XXX “Maternal, Child & Rural Health Support Program” (MCRH). The purpose of this assistance is to better monitor, diagnose and treat HIV/AIDS, TB, Cholera and other infectious “epidemic diseases.” The hospital also provides prevention/education services via the out-district health posts under its direction.

MCRH is covered by an SO-level IEE, which imposed the following conditions (among others):

- **Medical waste handling.** The medical facilities and operations receiving assistance under this program must have adequate procedures and capacities in place to properly handle, label, treat, store, transport and dispose of blood, bio-hazards and other medical waste.
  

- **Kitchen & Sanitary/Hygiene facilities.** The medical facilities and operations receiving assistance under this program must have kitchen and sanitary/hygiene facilities (i.e. toilet/latrines & showers) & management protocols for these facilities sufficient to minimize the possibility of patient-to-patient & patient-to-staff transmission

- **Brown and gray wastewater systems** must be sufficient to prevent contamination of surface or groundwater with infectious pathogens.
Unfortunately, these SO-level conditions were never stated as contract conditions for the partner nor written into the MOU with the hospital and Ministry of Health.

You are visiting in mid-implementation to assess the adequacy of environmental management and mitigation measures in place with respect to these conditions.

Back “at the office,” you will develop a draft EMMP focused on correcting issues identified by your field observations. (This draft EMMP would then be discussed with the partner and MoH/Hospital.) Also address how you (the Mission) would propose to monitor implementation of this EMMP.

**Bagamoyo District Hospital**
Located ~2km from Bagamoyo town and ~200m from the ocean in a settled area, Bagamoyo District Hospital is a 125-bed facility opened in 1972. Initially providing health services largely to fisherman, it now serves tourists and the local community, as well as some patients who travel from Dar es Salaam.

Baseline population growth and the development of tourism and other economic activities in Bagamoyo have substantially increased the population the hospital serves, currently estimated at about 300,000 households. The number of patients has grown 1000-fold; however; the hospital facilities have not been expanded.

Facilities include dressing rooms, laboratories, maternity wards, general wards, pediatric wards and the mortuary. Canteen facilities are available for hospital staff and patients.

The hospital has 3 doctors, 1 district medical officer and 4 Assistant medical staff. Patients report to the casualty rooms and have their medical complaints registered. Depending on the complaint, they are taken to appropriate unit. The most common serious diagnoses are Malaria, TB, and HIV/AIDS.

The hospital generates significant volumes of medical and non-medical wastes. Facilities available to handle medical waste include special bins for sharps and “red bag” (potentially infectious) waste, and incinerators. In Sept 2007, the incinerator was malfunctioning and unsecured. Children were observed playing 50m from the incinerator. Solid waste is disposed off at a landfill twice a week.

The hospital is not connected to a central sewerage system. Some effluent is collected in a septic tank but quite often is discharged directly into the Indian Ocean. The hospital is only 200 meters from the ocean and less than 100 meters from a school.

The group will have an opportunity to talk to Dr Dorothy from the environmental health section of the hospital.

**Group 2: “Stanley Salt Ponds”**

**Scenario:**
For the purposes of this exercise, we assume that the “Stanley Salt Ponds” are a enterprise that received a small enterprise development grant and ongoing technical assistance under the USAID/XXX “Coastal Livelihoods Enhancement Program” (CLEP). The grant helped in part to fund construction of the facility. Technical assistance is being extended in the areas of marketing and to optimize production rates and product quality. By design, CLEP provides TA to all grant recipients.
CLEP is covered by an SO-level IEE, which imposed the following conditions:

- **Review of small enterprise grants.** The potential adverse impacts of classes of activities to be supported under CLEP’s small enterprise grants and technical assistance program should be readily controllable with basic good practice and sound design measures. However, specific activities are not yet know.

Therefore, an Environmental Review Report (ERR) will be required at a site and activity-specific level that describes the intervention, potential environmental consequences, and recommends mitigation measures. At the discretion of the REA/MEO, a determination will be made of the scale of the intervention and the range and significance of impacts and, based on this analysis, whether additional environmental review will be necessary. Mitigation measures specified by approved ERRs shall be implemented and monitored.

Unfortunately, the subproject review/ERR was never undertaken. Construction was completed and the scheme is now operational. You are visiting in the “ongoing support” phase to assess the adequacy of environmental management and mitigation measures.

Back “at the office,” you will develop a draft EMMP focused on correcting issues identified by your field observations. (This draft EMMP would then be discussed with the partner.)

Also address how you (the Mission) would propose to monitor implementation of this EMMP.

**Stanley Salt Ponds.**
Located at one km from the Paradise Holiday Resort Hotel in Bagamoyo, the Stanley Salt Pond site is a private owned enterprise started some 10 years ago.

The exploitation was set up after the clearing of a mangrove area. It consists of a set of evaporation pans for the production of salt.

The clearance of the mangrove to construct solar evaporation pans for salt production added to other development activities such as tourism, could lead to major destruction of the mangrove areas cleared for hotels and complexes, as occurring along the beaches of Bagamoyo.

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**Salt making process by solar evaporation**

Salt is made by moving sea water through a series of ponds that become progressively more saline as a result of evaporation. Beginning with an intake pond, where sea water is taken into the salt pond system and salinity matches that of the sea, brine (hypersaline water) is moved through evaporator ponds until saturated with sodium chloride. The brine, or pickle, is then moved to the final pond, called the pickle pond.

The portion of the salt pond system where the salt is harvested include—in order of their stage in the salt production cycle—pickle ponds (which are used for storage), crystallizers (where the salt precipitates on leveled and packed beds and is harvested using heavy equipment), bittern desalting ponds (where residual brine solution discharged from crystallizers prior to harvest is sent for removal of additional salt), bittern storage ponds (where bittern is stored prior to sale for dust suppressant and de-icing products or mixed with sea water and sent back to crystallizers for harvest), and wash ponds (which receive sea water that has been used to wash impurities from the crystallized salt).
Group 3: Bagamoyo Irrigation and Development Project (BIDP)

Scenario:
For the purpose of this exercise, we assume that the BIDP (described below) is a project designed and constructed under the USAID/XXX “Smallholder Agricultural Productivity and Market Access Program (SAPMA).”

SAPMA is covered by an SO-level IEE, which imposed the following conditions:

- **Subproject review of irrigation works.** While 22 CFR 216 does not provide guidance regarding what is considered small versus large-scale, an Environmental Review Report (ERR) will be required at a site and activity-specific level that describes the intervention, potential environmental consequences, and recommends mitigation measures. At the discretion of the REA/MEO, a determination will be made of the scale of the intervention and the range and significance of impacts and, based on this analysis, whether additional environmental review will be necessary.

- **Farmer training.** Farmers must be adequately trained on management and maintenance of irrigation canals.

Unfortunately, the subproject review/ERR was never undertaken. Construction was completed and the scheme is now operational. You are visiting in the “ongoing support” phase to assess the adequacy of environmental management and mitigation measures.

Back “at the office,” you will develop a draft EMMP focused on correcting issues identified by your field observations. (This draft EMMP would then be discussed with the partner.) Also address how you (the Mission) would propose to monitor implementation of this EMMP.

**The Bagamoyo Irrigation Development Project.**
BIDP is a cooperative union of 128 families. The project started in 1987 –1990 with preparation, site clearing, surveying and preparation for 80 hectares of farm sites for training. The site clearing was limited to grass only as there were no trees. Indigenous farmers who were cultivating rice along the Ruvu river were incorporated into the project.

The project abstracts irrigation water from the Ruvu river, which also supplies water for household use and stocks in the area as well as being a source of fish. A proposed sugar plantation which plans to draw water from the same river source will be a competing irrigation use.

By 1995, 100 farmers had been trained but had no land to cultivate. (The original 80 ha of the project were for training only.) In response, the Tanzanian government started a pilot farming program with financial support from the Japanese government. 100 hectares of land was taken from the prison department, and 52ha was allocated to 128 families, each of whom received ¼ hectare.

Support under the project was given to local farmers who would receive training in appropriate wheat and rice cultivation techniques; receive farming inputs and technical services (e.g., soil tests and advice on appropriate fertilizers to use), in exchange for 5 bags of rice. Trainee farmers working an acre of land each during the training period produced about 35 bags on average. The scheme produced 15 new graduate farmers each year and would allocate to them land for cultivation in the “pilot” section of the land.

From 1997 support from the Japanese stopped but farmers continued to receive support from the Tanzanian government until the year 2000 when the cooperative took over.
Without the financial and technical support, and in the face of declining yields and increasing crop diseases, farmers started using more and more fertilizers (TSP, DAP and Urea) and insecticides (Thionex, Actellic and Fungise.) Production costs soared. To keep costs low, families use more of the family labour rather than hired help.

Since 1991, 250 farmers have been trained. These are from neighboring villages—Kaole, Matimba and Bagamoyo town. Support from the cooperative is in the form of inputs and irrigation, all at a fee of Tsh 100,000 per family per season.

Individual input into the farming is often for transplanting weeding and harvesting. Each family produces 36 bags of rice, on average, per season translating to an income of Tsh 900,000 / US$ 900 on average. Typically, rural dwellers earn less than US$ 10 a month, so these rice farmers are among the high earners in their communities.

Training still continues for new farmers at a fee of Tsh 200,000.