

**Jordan Activities  
Quarterly Report- XX  
Sustainable Development of Drylands Project  
IALC-BRDC**

**Activities Summary (July 1 – September 30, 2007):**

**SOW**

- The first draft of the SOW for 2 years extension of the project is presented to the USAID-Amman,
- Reducing the activities and designing the SOW for a level of fund of \$500,000 was the request from the USAID-Amman.

**Required Biosolids Laboratory Training**

- The two days training workshop was conducted on July 30 and August 1, 2007,
- Thirty participants from various national institutes were presented,
- The main output of this activity was the development of a manual outline for the required bio-solid testing according to the Jordanian standard for bio-solid reuse.
- The development of a manual for sampling and testing bio-solid according to the Jordanian standard will be the next step continuing this activity.

**Development of Drying Bed Sludge Treatment Method**

- RSS prepared the proposal for this activity and it was sent to UoA for review,
- RSS started the work in this activity where they constructed a green house on one of the drying beds in Madaba WWTP as part of the methods to enhance bio-solid treatment.

**Modeling Biosolids Treatment in Jordan**

- RSS is preparing the proposal for this activity,
- The Weather Station for this activity is not working properly,
- Alternative source for weather data was identified in one of the National Center for Agriculture Research and Technology Transfer (NCARTT) research station close to Madaba.

**Application of Treated Biosolids to Land Irrigated with Effluent - Madaba**

- The fund for this activity was transferred from UoA to BRDC,
- The Maze crop was harvested,
- Samples of soil and plant were taken in the process of analysis at the RSS labs,
- Plans for planting another crop such as alfalfa were prepared and waiting the approval of UoA for the plan and the requested extra fund,

**Management Practices of Sludge and Biosolids in Jordan**

Volume I

- RSS prepared the work plan and manual outline for volume I of the manual and waiting UoA approval on the proposal,

### Volume II

- JUST prepared the work plan and manual outline for volume II of the manual as an extension to their current activity “Linkages for On-Farm Applications and Technology” and it is approved by UoA,
- A contract modification for JUST to prepare the Volume II of the manual was signed and sent to UoA for processing and fund transfer,

### Volume III

- RSS prepared the work plan and manual outline for volume III of the manual as a continuation of the bio-solid training workshop that held on July 30<sup>th</sup> and August 1<sup>st</sup>, 2007.

### **The Development of Anaerobic Wastewater Treatment Technology for Jordan**

- WERSC constructed the isolated room that will be used to control the temperature for the UASB reactor,
- The UASB reactors are installed and fed with wastewater,
- Septage samples are analyzed from the various reactors under different variables,
- First progress report was prepared.

### **Characterization of Septage at Ain Ghazal**

- WERSC prepared the proposal for this activity and it is approved by UoA,
- The contract between BRDC and WERSC for this activity is signed and processed by UoA,
- The fund for this activity was transferred from UoA to BRDC,
- WERSC continued taking samples from septage and analyzing them.

### **Rangeland Responses under Biosolids Application**

- Proposal for this activity was prepared and sent to UoA for review,
- The site for the demonstration watershed is assigned within the Hashemite University campus.
- Two workshops for general stakeholders and expert community were conducted for consultation in the development of work plan,
- Soil samples were collected from the selected site and analyzed.

### **Linkages for On-Farm Applications and Technology**

- Series of workshops for farmers, extension agents and engineers were organized,
- The first progress report is prepared,

### **Activities Summary for the following period (October 1 – December 31, 2007):**

#### **SOW**

- The SOW for 2 years will be finalized based on USAID-Amman comments.

#### **Development of Drying Bed Sludge Treatment Method**

- The contract between BRDC and RSS for this activity will be signed and processed.
- RSS will continue sampling and testing the drying methods,

### **Modeling Biosolids Treatment in Jordan**

- The proposal for this activity will be finalized and sent to UoA for review and approval,
- The contract between BRDC and RSS for this activity will be signed and processed.

### **Application of Treated Biosolids to Land Irrigated with Effluent (Madaba)**

- RSS will finish analyzing soil and plants samples from the site,
- New crop (alfalfa) will be planted on the site,
- The results from the Maze crop planting will be presented.

### **Management Practices of Sludge and Biosolids in Jordan**

- RSS will finish developing volumes I and III of the manual,
- JUST will finish developing volume II of the manual,

### **The Development of Anaerobic Wastewater Treatment Technology for Jordan**

- WERSC will continue sampling and analyzing septage from various reactors,
- Progress reports will be prepared.

### **Characterization of Septage at Ain Ghazal**

- WERSC will finish sampling and analyzing septage for Ain Ghazal,
- Final report will be prepared.

### **Rangeland Responses under Biosolids Application**

- The proposal for this activity will be finalized,
- The fund for this activity will be transferred,
- The final consultation session for national and international experts to review the final work plan will be organized,
- The final report that includes the work plan for the application in the demo site at HU will be prepared.

### **Linkages for On-Farm Applications and Technology**

- JUST will finalize a manual for bio-solid application as the main output of this activity,
- Final report will be prepared.

Saad AlAyyash,  
Project Coordinator, BRDC  
October 2007

**Activities Budgeting:**

| Activity  | Budget (\$)               |   |                                |   |
|---|---------------------------|---|--------------------------------|---|
|   | Budget Allocation         | Fund transferred during: Jul. 1 – Sep. 30, 07 | Total fund transferred to date | Fund transfer planned for: Oct. 1 – Dec. 31, 07 |
| <b>BRDC subcontract* (UoA to BRDC)</b>  | <b>69,000<sup>a</sup></b> | <b>14,000</b>                                 | <b>53,500</b>                  | <b>15,500</b>                                   |
| <b>The Development of Anaerobic Wastewater Treatment Technology for Jordan (BRDC to JU-WERSC)</b> | <b>83,000<sup>b</sup></b> | <b>13,000</b>                                 | <b>55,000</b>                  | <b>10,000</b>                                   |
| <b>Linkages for On-Farm Applications and Technology (BRDC to JUST)</b>                            | <b>40,000<sup>c</sup></b> | <b>5,000</b>                                  | <b>25,000</b>                  | <b>5,000</b>                                    |
| <b>Characterization of Septage at Ain Ghazal (BRDC to JU-WERSC)</b>                               | <b>30,000<sup>c</sup></b> | <b>20,000</b>                                 | <b>20,000</b>                  | <b>7,000</b>                                    |
| <b>Application of Treated Biosolids to Land Irrigated with Effluent – Madaba (BRDC to RSS)</b>    | <b>45,000<sup>c</sup></b> | <b>27,000</b>                                 | <b>27,000</b>                  | <b>7,000</b>                                    |
| <b>Rangeland Responses under Biosolids Application (UoA to BRDC)</b>                              | <b>40,000</b>             | <b>0</b>                                      | <b>0</b>                       | <b>40,000</b>                                   |
| <b>Required Biosolids Laboratory Training (UoA to BRDC)</b>                                       | <b>24,892<sup>d</sup></b> |   |                                | <b>24,892<sup>e</sup></b>                       |
| <b>Development of Drying Bed Sludge Treatment Method (UoA to BRDC)</b>                            | <b>15,000</b>             |   |                                | <b>15,000<sup>e</sup></b>                       |
| <b>Modeling Biosolids Treatment in Jordan (UoA to BRDC)</b>                                       | <b>25,000</b>             |   |                                | <b>25,000<sup>e</sup></b>                       |

<sup>a</sup> BRDC subcontract includes \$5,600 for TAC expenses,

<sup>b</sup> Includes \$5,000 BRDC contract monitoring fees,

<sup>c</sup> Includes \$3,000 BRDC contract monitoring fees,

<sup>d</sup> Includes \$2,000 BRDC contract monitoring fees,

<sup>e</sup> UoA transfers the fund to BRDC then BRDC transfers it to the various activities' implementing institutions in Jordan.