

# ACKNOWLEDGEMENTS

The Lebanon Global Design Team would like to thank **ARAMEX** for giving us the unique opportunity to have this enriching global experience by funding this project.

Special thanks to Dr. Rabi H. Mohtar for being our faculty advisor throughout our period of study.

The team also thanks the Center for Civic Engagement and Community Service (**CCECS**) at the American University of Beirut (AUB) especially Dr. Mounir Mabsoot (Director) and Reem Fayyad (Field Coordinator) for their support through facilitating our needs on ground throughout the period of our study and visit. Great thanks to Guy Bou Lahdo for conducting our surveys.

The team also thanks Dr. Bill Anderson, Director of Global Engineering Program, for support throughout the semester.

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## Civil Upgrade of an Informal Setting in Sabra Area Water Harvesting and Urban Upgrade



### Project Presentation by Global Design Team at Purdue University

**Date:** May 17, 2011

**Time:** 12:30-2:00 pm

**Place:** Rizk Conference Room, Bechtel Building

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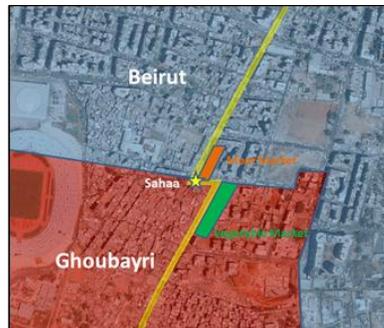


American University of Beirut  
**CCECS** | Center for  
Civic Engagement and  
Community Service

*Department of Civil & Environmental Engineering*  
Faculty of Engineering and Architecture

Sponsored by **Aramex**, and in partnership with the **Center for Civic Engagement and Community Service (CCECS)** at the American University of Beirut (AUB), **the Global Engineering Program (GEP)** at **Purdue University** is adopting a community development project in Sabra area in Beirut, Lebanon aiming to improve its livelihood conditions. The impoverished area is in need for intervention on different levels. This project will be targeted towards current concerns regarding the water supply and drainage in the area.

The main objectives of the Global Design Team (GDT) are as follows: design a rainwater harvesting system for a cluster of buildings to support residents in water shortage incidences, as well as improve a solution to the persisting problem of ponding in the “Sahaa”, which is a highly populated area lying in the market center.



The team will be proposing a system that would cater for the water needs of a chosen cluster for the entire summer season without the need to rely on any other source of water.



This cluster would serve as a prototype for further implementation in the area. Several alternatives involving the use of different pavement designs and alternatives will be discussed as short term solutions to the current Sahaa situation.

It is significant to state that these objectives were achieved through understanding the social, economic, and health impacts of the highlighted problems and proposed initiatives, all through stressing on adopting a participatory approach which was key in identifying the community’s priorities and needs.



The Global Design Team hopes that this study and proposed initiatives would serve as building blocks for proper intervention, in the efforts of implementing sustainable livelihood improvements in the area.

#### The Multidisciplinary Team

The multidisciplinary team is formed of four students from different schools from the College of Engineering at Purdue University, led by a Graduate Student/GEP member and supervised by a faculty member at Purdue University. Assisting this team is a facilitator at the Center of Civic Engagement and Community Service (CCECS) as well as support from the Civil Engineering Society at The American University of Beirut (AUB).

| Name           | Major                                    | Class               |
|----------------|--|---------------------|
| Rabi H. Mohtar | Agricultural and Biological Engineering  | Faculty Member      |
| Bassel Daher   | Agricultural and Biological Engineering  | Graduate/GEP member |
| Tiago Forin    | Education Engineering                    | Graduate            |
| Guangyu Ji     | Environmental Engineering                | Graduate            |
| Rebekah Steele | Chemical Engineering                     | Sophomore           |
| Alaina Nellans | Aeronautics and Astronautics Engineering | Junior              |
| Reem Fayyad    | CCECS/AUB                                | Project Facilitator |
| Guy Bou Lahdo  | CES/AUB                                  | Project Facilitator |

The Global design Team hopes the presented study would be an eye opener for the potential of collecting rainwater in Sabra area and other areas that suffer from water shortage during the dry season.