

## Health: The Design, Planning and Politics of How and Where We Live

- **Paper / Proposal Title:**

Water Efficiency in Buildings and Landscape, Egypt

- **Format:**

Written paper and Presentation (in-person)

- **Author(s) Name:**

Bassant Mereika

- **University or Company Affiliation:**

Architectural Engineering Department, Faculty of Engineering, Alexandria University, Egypt

- **Abstract (300 words):**

Water is a necessity upon which all life on Earth depends. With an exponentially growing world population, increasing affluence, urbanism and consumerism the demands on fresh water supplies are reaching new unprecedented limits. In Egypt the situation is much the same; with the population currently reaching 93,354,600 according to the latest census data and the supply of water coming primarily from the Nile, the quota is 55.5 billion m<sup>3</sup>/year, remains unchanged since the 1959 agreement when the population was only 26,085,000. Furthermore, the increased demand on agriculture and food industries as a result of the increase in population adds pressure to the enlarged demand on fresh water supplies. Accordingly, Egypt suffers water scarcity as the average share of water per capita is 589m<sup>3</sup>/year while the world scarcity limit is 1000 m<sup>3</sup>/year.

Moreover, Egypt has a serious water pollution problem; dumping of industrial wastes directly into the water bodies and agricultural runoff are among the main causes of the current situation. In conclusion, as a result of the severe water pollution, the

reduction of the amount of good quality water, and the extravagant consumer behavior, Egypt will suffer considerable water shortages in the near future.

This research aims to propose Greywater and rainwater harvesting as alternative resources that can help in reducing 50% - 80% of the purified drinking water supplied to domestic, commercial and industrial buildings as well as landscape irrigation to substitute the water demand not intended for drinking. This research also aims to compare these systems with other alternative mechanisms or resources in terms of feasibility with respect to environmental, economic and social conditions in Egypt. Additionally, this paper offers alternative strategic mechanisms that would facilitate the embrace of these systems in the Egyptian market and enhance water responsibility in the Egyptian society.

• **Author(s) Biography (200 words each):**

Bassant Mereika is a wife and a mother of two. She lives in Alexandria, Egypt. She studied Architectural Engineering at Faculty of Engineering, Alexandria University in Egypt. She works as a freelancer Architectural engineer, she designs contemporary and modern interiors besides supervising execution of all types of internal finishing works. Before that Bassant worked for many years in one of the biggest construction companies in Egypt, the project she worked on had boosted many of her skills and knowledge especially in execution works and international understanding. She has passion for learning and gaining experiences even from the simplest opportunities she would get. Bassant believes in social work and community service impact through NGOs or even local groups. She have worked since 2000 in a NGO and participated in holding a lot of events and projects, these projects had a great impact on her professional and social life. She loves travelling and playing sports. She travelled to England, France, Germany, Greece, Holland, Jordan, Scotland, Spain, Turkey and Wales. She got the 1<sup>st</sup> place in Parachuting national championship in 2001 and loves to play basketball, volleyball and swimming whenever her time and duties allow.