ICWATER RDI FUNDED PROJECTS BOOKLET

Project: ACCESSIBLE GREYWATER SOLUTIONS FOR URBAN INFORMAL TOWNSHIPS IN SOUTH AFRICA

Outcomes and expected impact:

The project has a number of expected outputs:
a) This project will design, build, commission and pilot a constructed wetland system which will be used by the members of the community on a daily basis. This would include real single household-sized constructed wetlands in the demonstration area to be used on a daily basis to treat grey water. We would also construct a demonstration unit at Frankenwald (50m north of the site on land currently owned by Wits University if permission is granted) to show to and involve the community;
b) The project will engage with and train the community on the use of the system, as well as provide education to the community about the risks and dangers of poor sanitation;
c) The development of a website with a video/photo-log for project dissemination purposes.
d) The project will train at least 2 African PhD students (or equivalent), to be registered at the University of the Witwatersrand, and one post-doctoral researcher in Leipzig. Additionally, the project will be used for undergraduate and postgraduate field demonstrations of greywater treatment systems within an African urban shanty environment; e) We believe that a significant number of peer-reviewed research papers will be produced through supporting this project. We anticipate that this could potentially include:
i) A social sciences paper, most likely in psychology detailing pre- and post implementation attitudes;
ii) Science papers describing the Langrug system, the chemistry of urban slum grey water, the biological,
chemical and hydraulic processes within the system(s), results from the usage of different support matrices within the CW and a full summary of the system, including flow and kinetic models for planning and visualisation;
iii) Design and assessment tools to construct and monitor the treatment efficiency of household size constructed wetlands in townships; and
f) The transfer and mobilisation of researchers from each location to travel to, spend time at and interact with researchers at the other locations. We will seek additional funding (from for example the BMBF, DAAD, FORMAS, STINT, WRC, NRF and others) to co-fund these exchanges as far as possible.

Expected research results to communicate and disseminate (in very general terms)	**Target groups for communication and dissemination activities:**
1.Chemical and biological analysis of grey-water at Alexandra	Scientific Community
2.Community engagement outcome	Research and public communities
3. Design briefs	Engineering community
4.Final reports	All
Experiments / Case studies (if any): location, type of experiments:	Water analysis and treatment at Langrug, Franschoek, and Alexandra, Sandton.
Water Policy context / project contribution to policies (National, European, International – UN SDGs):	