Abstract

To meet the dire need for clean water in the developing world, many water treatment technologies have been developed. For years, volunteers have been sent into the field to implement and train users to manage these technologies. However, these well intentioned volunteers do not usually have a water treatment background, which can lead to the improper technology being used. There have been multiple decision analysis tools created to aid in the appropriate water treatment technology selection process, but they all are insufficient for one reason or another. This project found that the most successful decision analysis technique for water treatment is the use of an expert system because expert systems make the knowledge of the few available to the many. The expert system for this application was created on Microsoft Excel and utilizes factors such as resource availability to discern which technology would be best for any particular set of circumstances based off of data collected in the field. The decision analysis tool was found to efficiently produce appropriate results with a large amount of data. Even with this success, this application of expert systems is suggested to be used as a foundation for further research to create an even more powerful tool.