



The use of semi-structured interviews for collection of qualitative and quantitative data in hydrological studies

Jimmy O’Keeffe (1), Wouter Buytaert (1), Ana Mijic (1), and Nicholas Brozovic (2)

(1) Imperial College London, Department of Civil and Environmental Engineering, United Kingdom (j.okeeffe12@imperial.ac.uk), (2) Robert B. Daugherty Water for Food Institute, University of Nebraska

To build an accurate, robust understanding of the environment, it is important to not only collect information describing its physical characteristics, but also the drivers which influence it. As environmental change, from increasing CO₂ levels to decreasing water levels, is often heavily influenced by human activity, gathering information on anthropogenic as well as environmental variables is extremely important. This can mean collecting qualitative, as well as quantitative information. In reality studies are often bound by financial and time constraints, limiting the depth and detail of the research. It is up to the researcher to determine what the best methodology to answer the research questions is likely to be.

Here we present a methodology of collecting qualitative and quantitative information in tandem for hydrological studies through the use of semi-structured interviews. This is applied to a case study in two districts of Uttar Pradesh, North India, one of the most intensely irrigated areas of the world. Here, decreasing water levels exacerbated by unchecked water abstraction, an expanding population and government subsidies, have put the long term resilience of the farming population in doubt. Through random selection of study locations, combined with convenience sampling of the participants therein, we show how the data collected can provide valuable insight into the drivers which have led to the current water scenario. We also show how reliable quantitative information can, using the same methodology, be effectively and efficiently extracted for modelling purposes, which along with developing an understanding of the characteristics of the environment is vital in coming up with realistic and sustainable solutions for water resource management in the future.