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HESSD

4, S1940–S1942, 2008

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Comment

## ***Interactive comment on* “Establishment of a catchment monitoring network through a participatory approach in a small rural catchment in South Africa” by V. M. Kongo et al.**

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This paper falls broadly into two parts: (i) an account of procedures used to gain the support, participation and goodwill of a rural community in South Africa for the installation of hydrometric networks in two small catchment areas of 1.2 and 10 km<sup>2</sup>; (ii) an account of what instrumentation is used for monitoring the water cycle, water quality and sediment transport within the two catchments. The paper is well-written and its material should serve as useful reading for research workers not only in Africa but elsewhere in the world, wherever field hydrological study is to be undertaken in rural

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areas where consent and participation of local people is required. It could be argued that the material presented in part (i) above is not strictly concerned with science, and that it therefore has no place in a scientific journal; and that the material in part (ii) is more about the instrumentation and its installation, without communicating much in the way of new knowledge about the water cycle. This is an unnecessarily restrictive view, because much field hydrology would be impossible with the approval, tacit or otherwise, of people who live and work the land where the research is to be sited, and securing that approval can be vital. Furthermore, the paper raises some interesting issues about the value of hydrological data, and about what kind of payment, in a broad sense, should be given for them.

All hydrological data cost money, whether paid to field technicians for hours of work or for the purchase and maintenance of instruments that record automatically. In their study of the Potshini catchments, the authors appear to have paid nothing (apart from their time spent gaining the consent and support of those who live there). It would be interesting to learn whether any other payment, perhaps in kind if not in cash, is given to people in the Potshini catchments on whose land instruments are sited, and who in some cases monitor them. (In a study on the River Ray catchment at Grendon Underwood in the UK during the 1970s, farmers who agreed that raingauges could be sited on their land each received a bottle of sherry at Christmas. A colleague who delivered this payment was usually invited to share it, an experience that caused him great difficulty in remaining upright after a day of visits). In other field studies with which this reviewer has been associated, different kinds of informal payment were given to participating local people, perhaps in the use of tools, or gifts of superfluous construction and fencing materials. So one question to the authors would be: what payments, whether formal or informal, were made to those who participated? And if none were made, is it fair that local people should be satisfied merely with the act of participating in a scientific project, even one which may benefit them in the longer term, when field technicians and scientists receive their salaries? And a broader question is, what is the value (worth) of hydrological data? Texts on decision theory (e.g., D V Lindley,

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1985: Making Decisions, John Wiley & Sons Ltd) show how the value of information can be calculated when data are used to make decisions whose consequences can be measured in terms of money or utility. But the reader of the paper does not get a sense that the authors have yet reached the stage at which the possible decisions, and their consequences according to what natural events might occur, can be listed.

A further question concerns the involvement of local people over the longer term. The Potshini study has only recently begun; the paper says it was initiated in 2004, and the authors' paper was sent for publication in September 2007, so the period reported in the paper may be about two years, or three at most. It would be interesting to learn whether the level of co-operation and interest of local people is being maintained, and whether there have been instances of vandalism or theft, and reluctance to record instrument readings every day at the same time: are there gaps in the records? If not, how did the authors manage to instill attitudes of scientific discipline in local people?

In conclusion, I would say that while the scientific content of the paper is limited, it raises a number of questions about the worth of hydrological data and how they are to be paid for. These questions are particularly important in developing countries where hydrometric networks and people are to co-exist.

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