Planning and implementation of integrated water resources management (IWRM) require participation of local water users, from the very production of baseline knowledge. This study analyses the potential to include community participation in water resource studies and management through ethnographic research including participatory mapping and historical accounts. Environmental change and confrontation with formalized science present various challenges and require especially interdisciplinary dialogue, the combination of natural and social sciences, qualitative and quantitative research and academic research and action. Two catchments in the Taita Hills, south-eastern Kenya were chosen as case study areas. Participatory mapping and timelines were employed as main the methods of data gathering. According to the results, local communities have experienced a decrease in water resources availability in the Taita Hills. Conversion of indigenous forest cover into agricultural land and exotic forest plantations is considered the main reason for this change. The study suggests that participatory mapping has high potential to enhance the spatial and sectoral integration in water studies as well as to include the knowledge of local community members into water management plans. Participatory mapping is relevant not only for providing spatial data or locating problems, but it is also about history, culture, knowledge and all that constitutes the meaning of the spatial attributes. These qualitative explanations are important for orientating policy making. The study suggests that the positivist knowledge approaches that focus on looking at the physical attributes of a place should be replaced with constructivist approaches that instead focus on the sense of a place, the affect. Some challenges related to the use of participatory methods in water resource management planning will also be discussed.

Keywords: participatory mapping, Taita Hills, water resources, timelines