

How to practice critically engaged science – a case of applying ethical principles in Senegal

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The initial concept of Geoethics, that is ethical enacting professional research in the geosciences, can be enriched towards the incorporation of public understanding of science, public engagement and leading to citizen science, most frequently practised in the biological and conservation sciences. The Voluntary Guidelines for Sustainable Small-Scale Fisheries in the Context of Food Security and Poverty Eradication (ssf guidelines) adopted in 2014 by FAO's Fisheries Committee emphasise the importance of rights based approaches, starting out with human rights. The understanding enshrined in the ssf guidelines has noticeable similarities with geoethical thinking, although the ssf guidelines go further. This includes the right to access to research results, which is ascertained specifically for environmental data in the Aarhus Convention. We have earlier argued in favour of participatory approaches to ensure access of small-scale fishers (ssfishers) – both women and men – and other stakeholders to research results in order to rebuild trust and reduce wasteful conflict between multiple governance levels. In the event, we explore the concept of a ssf academy as a space for shared investigation and learning. Scientists engage with ssfishers and other stakeholders from administration, coastal communities, civil society and business to the extent possible, where every participant holds some knowledge of the socio-environmental system, but none has all it takes to navigate the anthropogenic pressures. The meeting of different epistemologies and experiences can lead to new insights and opportunities to act. The pilot implementation phase will consist of two summer schools in 2018 with emphasis on sharing scientific results coached as story telling with ensuing open interaction and comparison with empirical experience of fishers, exploring also culturally sensitive choices based on short preparatory tests. Documentary film material already produced shall strengthen the sense of empowerment and agency that will enhance mutual learning outcomes. The ssf academy should be seen against the backdrop of the Northwest African region being particularly prone to illegal, unregistered and unregulated (IUU) fishing. There, such IUU-fishing accounts for almost 50 per cent of total extractions and represents a major threat to marine ecosystems and small-scale fisheries, which produce most fish for human consumption domestically and throughout the sub-region into the Sahel countries. These ssf sustain the livelihoods of roughly one million people. Our field research in Senegal and Guinea corroborates decreasing profitability of the ssf shown by economists. It also draws attention to the increasing disruption of social and traditional work organisation which represents a threat to its sustainability. It is understood that similar experiences are made in other economic sectors, such as mining, where industrial and artisanal modes of production may be interrelated. Hence, experiences made for ssf may be relevant to other sectors. Furthermore, testing the concept of geoethics enriched by notions of critically engaged science and citizen science is expected to feed into the on-going debate about its contours and content.