Geoethics need multi-dimensional research agendas and practice

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Geoethics have been developed as global ethics to face grand challenges for humanity by Peppoloni and Di Capua in 2020. Complementary to the UN Declaration of Human Rights the proposal of a responsible human development charter formulates universal duties to demonstrate ecological humanism. Commensurate with the need to operationalise such ambitions this paper suggests a multi-pronged approach.

Similar to conversations focused primarily on other scientific fields research agendas and practice in the earth and marine sciences would benefit from a more representative participation of actors from all fields of knowledge, genders, geographical areas, ethnic backgrounds and world views. Journals like Nature and other high-impact publications start giving more space to voices arguing for gendered research, more opportunities in academia and publishing to women and under-represented societal groups to achieve higher quality research for beneficial approaches to societal challenges.

One essential aspect is identifying and overcoming their tacit and not so tacit discrimination with a view to enable the much needed diversification of perspectives, cultures and knowledge sources in the search for a more viable trade-off between different possible responses.

Another, often linked, aspect is to ask questions in ways explicitly addressing a wider spectrum of societal risks and benefits. This is particularly obvious in health research mostly based on white male participants in clinical trials with high percentages of costly failures. But as recently becoming apparent, it also applies e.g. to AI research, now an ubiquitous tool in many research, production and service areas. Among the responses is the obligation for European research proposals to address gender in most thematic areas, including the geosciences, a requirement that almost certainly needs greater attention to avoid tokenism.

Moreover, particular attention is warranted to seek understanding and solutions for and with the substantial small-scale and artisanal sectors in mining, fisheries and other natural resource areas reviewed in earlier research. While traditional social structures can be important in some regions, unintended consequences of demand in globalised markets with strong wealth stratification are prone to create opportunistic rushes. Such attempts to get out of poverty very often come at a high cost to human and environmental health.

These challenges are best addressed by interdisciplinary and otherwise diversified research teams and inclusive forms of field testing conditions and impact of measures. These should be able to
cover the multiple dimensions through in-depth, interactive study and exploration of practical approaches with socially, economically and environmentally acceptable trade-offs. Investment in inclusive quality education is expected to underpin longer-term advances towards living the principles of geoethics.