

Enhancing ecosystem services by innovative remediation using gentle remediation options (ECO-GRO)

Innovative soil remediation technologies involving amendment-, plant-, fungi- and/or bacteria-based methods, i.e. gentle remediation options (GRO) can, besides providing effective risk management, also result in a net gain in ecological soil function. The improved ecological functions are critical for the provisioning of ecosystem services (ES), a healthy soil environment as well as achieving some of the United Nations' Sustainable Development Goals (SDGs).

The funding from COWIfonden will be used for carrying out a field scale pilot study implementing GRO as a part of a wider PhD-project.

The overall aim of the wider PhD-project is to investigate the potential of enhancing the supply of ES (and corresponding soil functions) through applying innovative GRO remediation strategies at contaminated brownfield sites. The specific objectives of the project are to:

- (i) develop a method for selection and design of GRO out of the site-specific conditions of each particular brownfield site in terms of land use, health and environmental risks, and soil properties,
- (ii) investigate how GRO can contribute to a broad range of environmental and societal benefits which arise as a result of increased provisioning of ES, and
- (iii) develop a process where a more careful consideration of site-specific conditions of the soil and available GRO can provide a better decision-making basis in the land use planning process, and thus contributing to sustainable development of contaminated sites and surroundings.

Funding from COWIfonden for field scale pilot studies will support successful fulfilment of the first specific objective to develop a method for site-specific selection and design of GRO. Pilot studies will also aid in developing the use of GRO in terms of demonstrating such method in practice for problem owners, authorities and the remediation branch in general, and to gain better theoretical and practical in-house knowledge and experience for future projects.