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Holistic approach towards sustainable remediation of contaminated sites: the Grote Nete Valley test study

Effective remediation of complex contaminated sites not only requires the integration of the knowledge of different experts and new technologies (i.e. artificial intelligence, drones, non-destructive characterization, etc.), but also the merging of sustainability values with a continued commitment to the socio-economic needs of its communities, partners, and stakeholders. At the Belgium Nuclear Research Centre (SCK CEN) we apply holistic approaches to remediate contaminated sites with the best balance for society and economy, in addition to the environment.

In this contribution we present the methodology followed in the SCK CEN's Grote Nete project which is focused around the completion of a sound radiological impact and risk assessment for identified areas of NORM (Naturally occurring radioactive material) and historical radionuclides / heavy metals contaminations along the Grote Nete Valley. Radiological "hotspots"have already been identified by aerial gamma spectrometry. The site is especially relevant for the Flemish authorities in Belgium, which includes the construction of dikes and of a sequence of flooding areas in order to contain the river water in a controlled way during extreme flow events to promote new ecosystems and recreational areas.

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