Development of Monitoring and Assessment Database System (EDMRAS) for War Related Environmental Damages in Kuwait

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Over a decade several survey and assessment projects have been conducted in Kuwait relating to assessing environmental damages due to war. Data and information has been collected characterizing the pollution in the air, water and soil in areas affected by spreading of pollution. Despite these efforts there exists a gap in knowledge on the long-term effects of the released pollutants, their fate and pathways as well as the potential risks associated with their existence in the environment.

A five-year program has been developed to monitor and assess the damages resulting from the events associated with the Iraqi aggression in Kuwait. This requires compilation of all relevant data and information and their critical evaluation. In addition, intensive monitoring has been implemented to characterize in details the present quality/pollution of the different environmental compartments-ground water, marine and coastal, terrestrial and public health consequences.

An integrated Environmental Data Management, Reporting and Assessment System (EDMRAS) has been developed for the program by compiling outputs from different environmental components. The system supports multiple environmental data themes such as air, soil, water, flora and fauna. The system allows collection of data from a variety of sources and projects to provide an overview of environmental conditions. Comparison of existing conditions with baseline data can be achieved allowing for rapid assessment of environmental effects. It has the ability to be integrated with a wide variety of analysis and numerical modeling software, allowing users to automate analysis and modeling processes and ensuring that all work is based upon the most reliable, up to date information available.

The EDMRAS System is based on Unix Servers utilizing the latest in ORACLE Database Technology and security. Realizing the importance of the information pertaining to this project, no comprises were taken in order to protect the integrity and quality of the data. EDMRAS is protected by various networking security firewalls and has numerous backup schemes including a replicated virtual private network.

The EDMRAS Data Center is located in the Kuwait Institute for Scientific Research (KISR) premises and utilizes the latest in Database/Geographical Information Systems‘GIS’/Remote Sensing/Modeling and Security softwares. A lot of efforts have been put into the design of the system as it will be the main source of information, leading evaluation of environmental damages.

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