

Water Resources Management Framework using Blockchain Technology integrated with INSPIRE and Turkey National GIS (TUCBS)

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SUMMARY

Water is one of the increasingly valuable natural resources that are of primary importance in the existence of humanity, nature and life. Therefore, there is an inevitable interaction between water resources and environmental factors, ecological structure, ecosystem, habitat and users. Especially water resources are under the influence of natural phenomena, climate change, land use and land cover changes, agricultural applications, industrial and industrial applications and many pollutant components. At the same time, water resources have an observable impact on energy, rural and urban development, transportation, solid waste management, the establishment of water supply systems and sustainable agriculture policies and practices, as well as the existence of water ecosystems and the provision of biodiversity. Accordingly, all phenomena and cycles that interact with water resources are based on land. In other words, water resources and land can be defined as two important natural resources that affect each other in a continuous interaction. Today, these two main commodities need more effective, more sustainable management and usage planning. This is for meeting the needs of the society for today and the future, especially under agricultural production, food security and nutrition, under the influence of continuity and climate change in population growth. In line with this requirement, it is important to develop local, national and global management strategies and implementation policies for sustainable land and water interactions related to integrated water resource management initiatives in accordance with the principles of the European Union Water Framework Directive. As a result, it is aimed to develop a digital infrastructure using blockchain technology for the management of water resources dynamics integrated with INSPIRE and Turkey National Geographical Information System (TRGIS/TUCBS) data themes.

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