

## The Importance of Efficient and Sustainable Water Resources Management and the Role of Artificial Intelligence in Preventing Forced Migration

**Authors :** Fateme Aysin Anka, Farzad Kiani

**Abstract :** Forced migration is a situation in which people are forced to leave their homes against their will due to political conflicts, wars and conflicts, natural disasters, climate change, economic crises, or other emergencies. This type of migration takes place under conditions where people cannot lead a sustainable life due to reasons such as security, shelter and meeting their basic needs. This type of migration may occur in connection with different factors that affect people's living conditions. In addition to these general and widespread reasons, water security and resources will be one that is starting now and will be encountered more and more in the future. Forced migration may occur due to insufficient or depleted water resources in the areas where people live. In this case, people's living conditions become unsustainable, and they may have to go elsewhere, as they cannot obtain their basic needs, such as drinking water, water used for agriculture and industry. To cope with these situations, it is important to minimize the causes, as international organizations and societies must provide assistance (for example, humanitarian aid, shelter, medical support and education) and protection to address (or mitigate) this problem. From the international perspective, plans such as the Green New Deal (GND) and the European Green Deal (EGD) draw attention to the need for people to live equally in a cleaner and greener world. Especially recently, with the advancement of technology, science and methods have become more efficient. In this regard, in this article, a multidisciplinary case model is presented by reinforcing the water problem with an engineering approach within the framework of the social dimension. It is worth emphasizing that this problem is largely linked to climate change and the lack of a sustainable water management perspective. As a matter of fact, the United Nations Development Agency (UNDA) draws attention to this problem in its universally accepted sustainable development goals. Therefore, an artificial intelligence-based approach has been applied to solve this problem by focusing on the water management problem. The most general but also important aspect in the management of water resources is its correct consumption. In this context, the artificial intelligence-based system undertakes tasks such as water demand forecasting and distribution management, emergency and crisis management, water pollution detection and prevention, and maintenance and repair control and forecasting.

**Keywords :** water resource management, forced migration, multidisciplinary studies, artificial intelligence

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