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"Food and nutrition security and its resilience to global crises"

The Food Security and Water Insecurity Paradox in Iran; The Case of Feed Production - Feed Import - Irrigation Water Consumption Nexus

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Abstract

The agricultural sector in Iran is accounted for more than 90% of water consumption. This sector put huge pressure on endangered water resources which even can cause water insecurity to many water basins in the future. Currently, in Iran around 91% of the meat demand and 98% of raw milk are supplied domestically which make the provision of the feed products essential.

In order to enhance the food self-sufficiency of meat and dairy products, the general agriculture's policy of Iran is pushing for the self-sufficiency of the main feed items. While the fodder crops have relatively high irrigation water requirements, the plan of increasing their production will threat the already endangered groundwater resources more. In other word, food self-sufficiency in Iran which is equalised more or less to food security is closely linked with environmental issues and water insecurities. Therefore, decision makers need to have a balanced strategic importing and production plan for feed items in order to prevent water insecurities.

In this study, we apply nexus concept which has been developed to analyse nexus-related interlinkages. We have used the provincial available data on red meat and dairy production on one side and the nexus between fodder crop production, feed import and irrigation water consumption on the other side. We use the available data on water footprint of fodder crops and regional irrigation water data on fodder crops to estimate the water requirements. By using the nexus approach, these data are compared to water resources condition in each province to examine the agronomic water efficiency.

The primary results of this study shows that feed crop production should be reviewed very critically in many provinces as its promotion especially in those provinces depending mainly on groundwater resources can cause danger to inhabitants by increasing their future water insecurities.

Keywords: Feed production, food security, nexus, water security

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