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“Food and nutrition security and its resilience
to global crises”

Digitizing; A Doorway to the Sustainable Meat Supply Chain in Iran

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Abstract

In early 2019, a phenomenon called ‘meat crisis’ in Iran, has led to a significant increase in red meat price over a short period of time. The problems of this chain are so fundamental that despite the increase in the number of domestic livestock, a 188 % increase in meat imports could not solve the crisis. Given the importance of red meat and the profound link between the price of food and food security, we conducted an empirical study in five counties of the eastern province of Khorasan Razavi in Iran, where has the highest production of red meat in the country. The aim of our study is to identify the influential factors in this crisis and to find out the new available digital technologies which can improve the performance and sustainability of the red meat supply chain (RMSC) to reduce the risk of such crises re-emerging. Applying the global value chain governance (GVC) approach allowed us to map the chain and investigate actors, activities, connections, policies and transformations in the local RMSC. Identifying the gaps in RMSC digital maturity and to find the possible application of digital technology was achieved through using the Case study method. The results show that some of the major challenges in Iran’s RMSC are due to inappropriate distribution of livestock inputs, lack of production capacity due to the traditional methods, lack of tractability of data from feeding to distributor and the captive governance structure of this chain. We propose that safe tracking and monitoring of the chain can be provided by the blockchain technology along with Radio Frequency Identification (RFID). In other words, the application of these technologies verifies the validity, fulfil the efficiency of information and reduce the opportunistic decisions which can improve decision-making and performance through this supply chain. These technologies increase the responsiveness to the market demands via integrating and maximising the capacity of different sectors to increase productivity and product safety and quality.

Keywords: Blockchain, digital technologies, meat crisis, radio frequency identification, red meat supply chain