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Impacts of urbanisation and climate change on the livelihood of livestock owners in the Cholistan desert, Pakistan

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Abstract

Climate change and urbanisation are emerging issues that drive changes in livestock production and the livelihood of people living from it in Pakistan. This study aims to document the impacts of urbanization and climate change on the livelihood of livestock owners near the city of Yazman Mandi in the Cholistan Desert of Pakistan. The main objectives of the study are to 1) give an overview of local livestock production, resources availability, and rural-urban linkages; 2) understand how urbanization impacts their livelihood; 3) inquire if climate change impacts livestock health and production. One survey (n=100) and six focus group discussions were conducted in 13 villages surrounding Yazman Mandi. Respondents were selected through random sampling and segregated into an urban (Urb) and a rural (Rural) group (G). This was based on nearness and travel frequency to the city. A mixed methods approach was applied to collect data which was analyzed using descriptive statistics, independent T-test, and Pearson Chi-square test using SPSS-29. Results showed that respondents in cluster G-Urb were more educated, had diversified sources of income and achieved better selling prices for dairy products and live animals. For respondents in cluster G-Rural, by contrast, livestock was the main source of income, their herd sizes were large and they were more dependent on the exploitation of natural resources for their livelihood. Both groups were facing deficiency of pasture and water resources, and high disease incidence in cattle and small ruminants - all attributed to climate change effects. Furthermore, both groups had significant occurrences of animal reproductive issues, low milk and meat production, and heat stress. There is a need to educate and make farmers aware of modern livestock-keeping methods. Training should be organized to enable farmers counteract adverse climate change effects. This study will help students of the related fields, as well as private and government agricultural institutions to better understand changes in livestock-based livelihoods under the impacts of climate change and urbanisation in the Cholistan region.

Keywords: Cholistan desert, climate change, livelihood, livestock

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