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Socioeconomic and demographic characteristics of Watani cattle owners in wardak province, Afghanistan

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Abstract

The present study was undertaken to evaluate the socioeconomic and demographic characteristics of Watani cattle owners in two districts of Wardak province, Afghanistan. The study aimed to provide an in-depth understanding of the profile of cattle owners and the intricate factors influencing their livelihoods. The data collection process involved a meticulous survey consisting of about 210 male respondents. The analysis of the age distribution reveals distinct categories, with 18.77% young, 28.09% middle-aged, 31.24% late middle-aged, and 21.90% elders. Educational attainment among the respondents exhibits a heterogeneous landscape, with 39.52% being illiterate, 30.00% having completed primary education, 20.95% possessing middle education, 8.57% attaining high school education, and a mere 0.96% being graduates. The majority of respondents belong to joint families (90.95%), while the remaining 9.05% hail from nuclear families. Family sizes display considerable variation, with 1.90% classified as small, 13.34% as medium, 85% as large. The primary occupation of the respondents predominantly agriculture and livestock (53.33%), followed by labor (26.19%) and services (20.48%). Land ownership patterns among the respondents reveal a diverse range of land sizes, ranging from 0.4 to 0.8 hectares, with 35.71% owning land in the 0.4-0.6-hectare range, 37.14% in the 0.6-0.8-hectare range, and 27.15% owning more than 0.8 hectares. In terms of monthly income, most respondents (67.15%) earn between 6001 and 10000 AFN, while 32.38% earn up to 6000 AFN, and a mere 0.47% earn between 10001 and 15000 AFN. These findings provide valuable insights into the socioeconomic and demographic characteristics of Watani cattle owners in Wardak province, offering a nuanced understanding of their circumstances. The implications of this study can inform targeted interventions and evidence-based policies aimed at enhancing their livelihoods and overall well-being, thereby contributing to the broader literature on sustainable development and poverty alleviation in rural areas.

Keywords: Socioeconomic characteristics, livelihood, Watani cattle owners

Introduction

The livestock sector assumes a pivotal role in providing essential sustenance comprising animal protein, augmenting household incomes, and fostering gainful employment opportunities within rural regions. In the context of livestock husbandry, Afghanistan presents a promising landscape, characterized by a substantial populace of livestock and poultry. Specifically, this study zeroes in on discerning the socio-economic status of Watani cattle proprietors in two Wardak province districts within Afghanistan. While precise figures remain elusive, Afghanistan is renowned for its substantial livestock populace, encompassing cattle, buffaloes, sheep, goats, and poultry. This rich reservoir of animal resources significantly contributes to the agrarian tapestry and rural livelihoods across the nation. However, notwithstanding the abundance of animal assets, the productivity of Afghanistan's livestock sector languishes beneath its optimal potential.

The underperformance in livestock productivity can be ascribed to a myriad of factors, including socio-economic disparities manifested among livestock farmers. As such, this study endeavors to undertake a meticulous benchmark analysis of the socio-economic milieu underpinning Watani cattle owners within the Wardak province. By penetrating the layers of socio-economic intricacies characterizing these cattle owners, the research aims to unveil the latent socio-economic determinants that impinge upon livestock productivity within the region.

Through an exhaustive examination of the socio-economic dynamics at play, this study aspires to furnish a heightened comprehension of the challenges and opportunities confronted by livestock farmers in Afghanistan. By illuminating the socio-economic context that is specific to the Wardak province, this research holds the potential to inform targeted interventions and policies, thereby bolstering livestock productivity and augmenting the

broader socio-economic well-being of livestock farmers within Afghanistan.

Materials and Methods

The study was carried out in the two districts of Wardak province of Afghanistan. A complete survey on the socio-economic status of the Watani cattle owners or farmers over the period of six months. The survey area has been selected randomly and conducted with 210 Watani cattle owners who had 1 to 3 Watani castles. Different phenotypic markers such as age of the farmers, gender, education status, occupation, population of their livestock were used according to NBAGR guidelines for management of animal genetic resources of India, in this study. Information on the social economic status of Watani cattle farmers and overall population of animals that they had. The socio-economic dynamics were age of the farmer, gender, family type, family size, education, land size, monthly income, and overall number of animals.

Selection of the study areas

The study was conducted in Wardak province, specifically in the districts of Chak and Sayed Abad. These districts were randomly selected based on several factors, including the unavailability of data and literature in the selected area, the significance of animal husbandry in these districts, the higher concentration of Watani cattle in these areas, the socio-economic status of the farmers, and the importance of evaluating the farmers' management practices.

Location and climatic condition of the study srea

Wardak province, located in the central region of Afghanistan, has a warm, dry summer and a cold, snowy winter. The average annual rainfall is 373 mm, and the average daily temperature is around 8.8°C. The province falls within the Central Agro-climatic zone, with an elevation above sea level of 2,225 meters.

Selection of respondents

Respondents were randomly selected from the selected districts, regions, and villages. Each respondent owned a minimum of 1 to 3 Watani cattle.

Sampling plan

Purposive sampling was used in this study, resulting in a total of 210 respondents and approximately 400 animals (both sexes). All categories of farmers who reared Watani cattle were included in the study.

Development of interview schedule

An interview schedule was developed to collect the necessary data. The schedule was based on literature reviews, NBAGR guidelines for management of animal genetic resources of India, previous works on other breeds, and practical experience. The interview schedule covered four parameters: socio-economic profile of the farmers, management practices followed by farmers, morphological characteristics, and measuring the performance of the cattle breed and progeny growth.

Data collection

Data collection was carried out through direct

questionnaires. The questionnaires included information such as age, origin, sex, education status, occupation, income, land size, family type and family size. Quantitative and qualitative data were collected using a semi-structured interview schedule. The heads of households who owned Watani cattle were interviewed.

Statistical analysis

The collected data was coded and tabulated in an Excel sheet on a respondent-wise basis. Statistical analysis was performed using SPSS software. Chi-square tests and one-way ANOVA tests were conducted to analyze the data for each parameter.

Results and Discussion

Demographic and socioeconomic characteristics

Gender of farmers

All (100%) respondents or livestock owners were male, serving as the primary decision-makers within their respective families. This involvement of males alone in animal rearing has been recorded in various studies (Devaki *et al.*, 2016; Khan and Chander, 2016) [4, 8], where majority of the respondents were males. It is imperative to encourage farmers to engage in collaborative discussions and jointly make decisions, as this can not only enhance family cohesion but also contribute to informed decision-making and a sense of unity among family members.

Age of farmers

It was observed that majority of the respondents were in late middle age (31.24%) followed by middle (28.09%), elders (21.90%) and young (18.77) (Fig. 1). These findings align with the research conducted by Balakrishna (1997) [2], Sabapara *et al.* (2014) [17] also found that majority of respondents were in middle age group. Farmers of late middle age possess a considerable amount of experience and knowledge gained over years of agricultural practice. This expertise enables them to make informed decisions and effectively manage farming operations. It is constraint to encourage farmers to contribute to this practice.

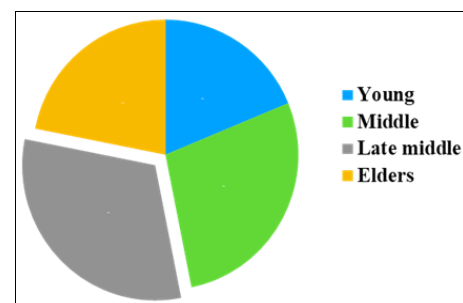


Fig. 1: Distribution of age groups involved in the livestock rearing practices in Wardak province.

Education status of farmers

Most of the farmers/respondents (39.52%) were in the illiterate level of education followed by primary (30%), middle (20.95%), high school (8.57%) and graduated (0.96%) (Fig. 2). These findings are aligned with the finding of Meena *et al.* (2012) [12] and Similar, with the findings of Mahla *et al.* (2015) [11], Sabapara *et al.* (2014) [17] and relatively higher compared to the finding of Rathod *et al.*

(2011)^[6]. Economic constraints and the need for immediate income generation were the reasons that deter farmers from pursuing higher levels of education. It is imperative to

encourage collaborations between educational institutions, agricultural extension services, and farmer organisations to facilitate knowledge sharing and capacity building.

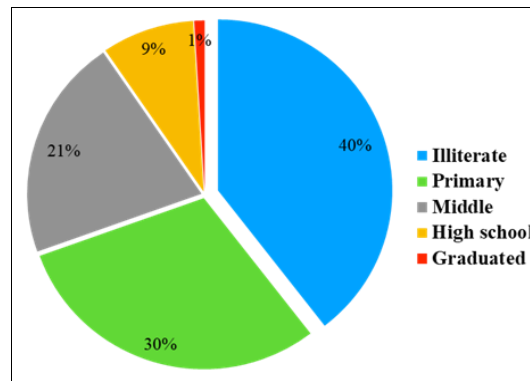


Fig. 2: Educational levels of farmers involved in the livestock rearing practices in Wardak province.

Family type and Family Size of farmers

It was observed that the majority (90.95%) of the Watani cattle owners lived in the joint type of family and only live as nuclear (9.05%) families. More than half (52.86%) of the livestock farmers belonged to large family size category followed by large (84.76%) and medium family size (13.34%) and small family size (1.90%) categories (Fig. 3). This indicated that they were just aware of the advantages of family planning but not implementing it at the right time. Similar trends were observed by Kumar (2001)^[10]; Gupta (2011)^[7]; Kumar *et al.* (2020)^[9]; Savale *et al.* (2018)^[18].

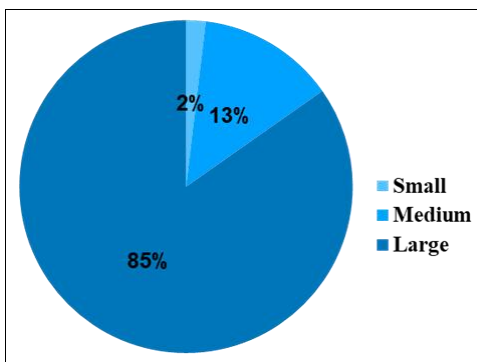


Fig. 3: Family composition of farmers involved in the livestock rearing practices in Wardak province.

Income of farmers

It was observed that mostly (67.15%) of the respondents had average monthly income (6001 to 10000 AFN) followed low (32.38% ANF) and only (0.47%) of the respondent had above the average monthly income (above 10000 AFN)

(Fig. 4). The lower annual income among the livestock farmers have been reported by various workers (Atreya *et al.*, 2018; Singh *et al.*, 2021)^[1, 20].

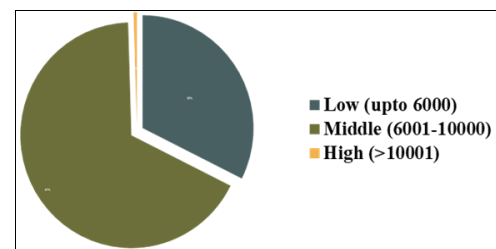


Fig. 4: Annual income of farmers involved in the livestock rearing practices in Wardak province.

Land holdings and Occupation of farmers

The agriculture and livestock farming is the major occupation in the survey area, as more than 53.33% of the farmers were relied on the agriculture and livestock, followed by labor (26.19%) and services (20.48%) such as shop, driving. Majority of the respondents hold small (0.4 to 0.6 ha) to medium (0.6 to 0.8 ha) land holdings 36 and 37% respectively (Fig. 5). About 27% respondents hold an higher land area of more than 0.8 ha. Agriculture and livestock activities often provide a level of self-sufficiency, as farmers can produce their own food and generate income through sale of agricultural produce and livestock products that hence, most of the farmers were relied on agricultural and livestock. Similar observations of higher proportion of respondents involved in agriculture/livestock practices have been recorded elsewhere (Prashad *et al.*, 2019; Singh *et al.*, 2021)^[15, 20].

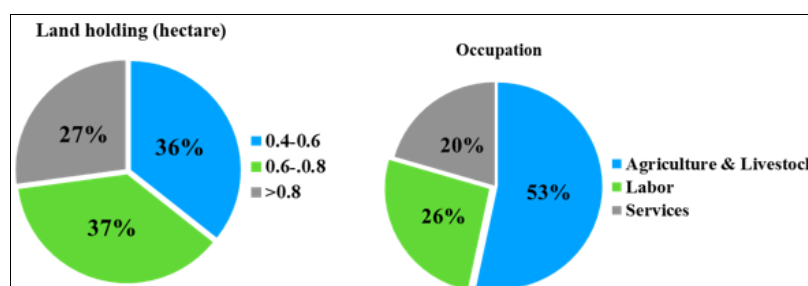


Fig. 5: Land holdings (a) and annual income (b) of farmers involved in the livestock rearing practices in Wardak province

Distribution of livestock animals among the respondents

The distribution of sheep owned by the farmers in the study area was found to be significantly different ($\chi^2 = 15.285$, $p < 0.05$). Most of the farmers had up to 5 sheep (82 farmers, 39%), while only 6 farmers (2.9%) had five or more sheep (Fig. 6). This finding suggests that the ownership of sheep is limited in study area. The number of goats owned by the

farmers in study area was found to be significantly different ($\chi^2 = 4.315$, $p < 0.05$). Most of the farmers (106 farmers, 50.5%) owned goats, with 39 farmers (18.6%) owning 2 or more goats. This finding suggests that goat ownership is relatively common in both locations, which may have implications for the potential of goat rearing as a source of income and livelihood for the farming population.

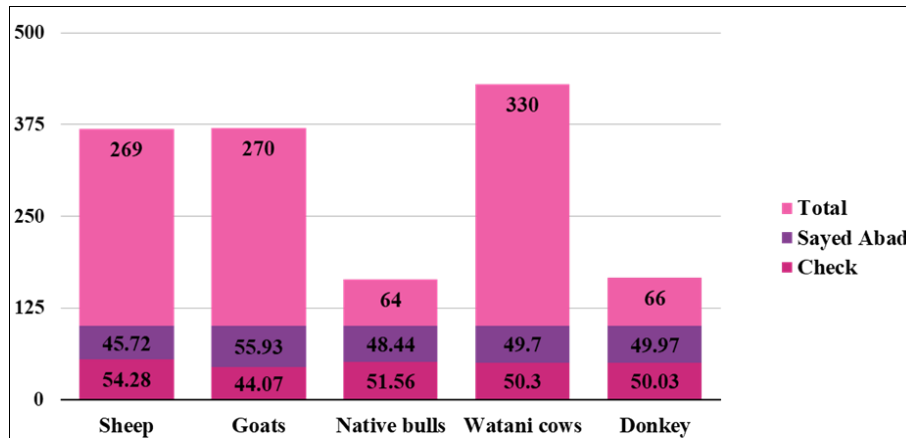


Fig. 6: Distribution of in the livestock rearing among the respondents in Wardak province.

It is found that, most of the farmers did not rear bulls ($\chi^2 = 0.330$; $p > 0.05$) (69 farmers in Chak and 77 farmers in Sayd Abad), while only 64 farmers (30.5%) owned one bull. This finding suggests that bull ownership is relatively low in both locations. The number of calves owned by the farmers in study area was found to be not significantly different ($\chi^2 = 1.713$; $p > 0.05$). The majority of the farmers owned no calves (86 farmers in Chak and 96 farmers in Sayd Abad), while only 27 farmers (12.9%) owned one or two calves. The number of cows owned by the farmers in study area is significantly different ($\chi^2 = 2.431$; $p < 0.05$). Most of the farmers owned one or two cows (97 farmers in Chak and 103 farmers in Sayd Abad), while only 20 farmers (9.5%) owned three or more cows.

Conclusion

In conclusion, this study provides insights into the socioeconomic and demographic characteristics of Watani cattle owners in Wardak Province, Afghanistan. The findings highlight key aspects such as age distribution, educational attainment, family structure, occupation, land ownership, and monthly income. The research emphasizes the need for targeted interventions to address challenges and improve the livelihoods of cattle owners. By leveraging these insights, policymakers and practitioners can develop evidence-based strategies to promote sustainable development and poverty alleviation in rural areas.

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