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**WILDLIFE CONSERVATION AND LIVELIHOOD  
TRANSFORMATION THROUGH TROPHY HUNTING: A SOCIO-  
ECONOMIC ANALYSIS OF THE HUSHE VALLEY, BALTISTAN**

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**Abstract**

*Trophy hunting in Pakistan, particularly in the remote region of Baltistan, has emerged as a dual-purpose strategy for wildlife conservation and socio-economic uplift of local communities. This study explores the socio-cultural and economic impact of trophy hunting in the Hushe Valley, Ghanche District, Baltistan, by integrating scientific data, indigenous narratives, and ethical considerations. Under the quota-based system, a limited number of endangered species such as the Markhor are legally hunted, generating substantial revenue—of which a significant portion is allocated to local development projects, including infrastructure, education, and healthcare. The program has contributed positively to wildlife population recovery and community welfare. However, challenges persist, including inadequate data collection, mismanagement of funds, and ethical concerns regarding the commodification of wildlife. When compared to conservation alternatives like eco-tourism, trophy hunting presents both benefits and limitations—offering higher immediate financial returns but potentially lower public support. The study recommends adopting technology such as satellite tracking and blockchain-based financial transparency, integrating Islamic environmental ethics, promoting alternative income sources, and preparing communities for climate change. This research contributes to the broader discourse on sustainable conservation by highlighting the intricate balance between environmental preservation and community empowerment in sensitive ecological zones.*

**Keywords:** *Socio-Cultural Economy, Trophy Hunting, Quota System, Revenue Distribution, Wildlife Conservation and Community Development.*

**1. Introduction**

Trophy hunting is a legal form of wildlife hunting where hunters pay to kill animals with special attributes (e.g., horns, tusks), mainly targeting male individuals. Hunters keep parts like heads or skins as trophies. While trophy hunting can threaten species' survival due to selective targeting, many countries impose restrictions to conserve wildlife (Frisina, M, R, 2000). In Baluchistan, trophy hunting remains a contentious issue balancing wildlife conservation and economic benefits for local communities and government. The practice is deeply interconnected with the region's social, cultural, and economic fabric. Unlike global criticism, trophy hunting under controlled strategies in Baluchistan has shown benefits by mitigating illegal hunting and providing revenue (Ubaid Sahil, 2 feb, 2025).

Globally, trophy hunting faces criticism because targeted species like lions and rhinos have seen population declines. While revenues from trophy hunting support some local communities in Africa and Asia, a majority (97%) of these earnings are often captured by corrupt elites or



officials, leaving little for conservation or grassroots beneficiaries. This corruption accelerates species decline and undermines claims of trophy hunting as a conservation tool (Packer, C, Brink, H, Kissui, B.M., Maliti, H., Kushnir, H., & Caro, T., 2011) (Barnett, R & Patterson C., 2006). Legal hunting of black and white rhinos is regulated internationally, with strict limits such as the 2004 Convention on International Trade capping rhino hunting to no more than five individuals annually ([www.savetherhino.org](http://www.savetherhino.org), , 2019). Historically, Africa had about 20 million elephants, but populations plummeted due to hunting and illegal ivory trade, with current numbers between 420,000 to 650,000. Elephant populations vary by country, e.g., Tanzania (43,000) and South Africa (18,000) (Doc, C, 2001). The black rhino, once widespread, has fallen below 5,000 individuals and is endangered under the ESA. Its population concentrates mainly in South Africa, Namibia, Zimbabwe, Tanzania, and Kenya. The West African black rhino has already gone extinct (Milliken, T. Emslie R.H. & Talukdar B., Nov, 2009).

Trophy hunting in Pakistan traces back to the colonial period, initially considered a sport. It was banned in the early 20th century due to illegal killings and opposition from religious and political leaders. However, in 1989, the practice re-emerged under community-based and regulated programs, heavily influenced by figures like Syed Yahya Shah Al Hussaini from Gilgit Baltistan, promoting sustainable hunting in Baluchistan (Muhammad Abubakar/ Kundan Shrestha, 25 Mar, 2021).

➤ **Key Features of the Program**

▪ **Quota System**

Wildlife authorities provide permit of hunting on the bases of scientific survey and demographic studies conduct scientific survey and demographic studies. For example, Markhor and Ibex are not allowed to kill but only mature males to preserve the genetic integrity and reproduction health of the populations. ([www.huntingconsortium.com](http://www.huntingconsortium.com), n.d.)

▪ **Revenue Distribution:**

80 percent revenue generated by trophy hunting is given to local community for their development. This fund helps to build the infrastructure, education, healthcare and conservation programs. These funds also used to stop illegal hunting and programs of habitat restoration. ([www.huntingconsortium.com](http://www.huntingconsortium.com), n.d.)

▪ **Community Involvement:**

local communities are not only taking advantages from the revenue generated by Trophy hunting but play an active role in wildlife management by looking at the practice of trophy hunting, revenue distribution and also keeping an eye at the population of the animals. ([www.huntingconsortium.com](http://www.huntingconsortium.com), n.d.)

▪ **Scientific Management:**

The hunting consortium Ltd was designed to guide hunters and to preserve the wild population by developing strict Quota system and monitoring protocols. Many Markhors those were in danger were recovered ([www.savetherhino.org](http://www.savetherhino.org), , 2019).

➤ **Below are the details of evolution of the trophy hunting and conservation tool**

- British Colonial Hunting Era (19th-20th Century)
- Post-Independence Hunting Ban
- Poaching Crisis and Decline in Wildlife
- Community Proposals for Regulated Hunting (1989)
- Implementation of Trophy Hunting Programs
- Reinvestment in Community and Conservation Initiatives



- A detailed table summarizes the key components of the trophy-hunting program in Baluchistan:

Component	Description	Implementation Details
Quota System	Science-based limit on the number of animals hunted	Permits issued based on population surveys
Revenue Split	Majority revenue directed to local development	Approximately 80% for community projects
Eligibility	Mature individuals only to ensure species regeneration	Only males above a certain age are hunted
Regulatory Oversight	Strict monitoring and periodic audits	Managed by wildlife departments and third-party audits

(www.hunting consortium.com, n.d.)

## 2. Review of Literature

The conservation of wildlife, specifically trophy hunting programs, has a long history in areas like Khyber Pakhtunkhwa (KPK), Gilgit Baltistan, and region of Africa. Chitral Conservation Hunting Program in Pakistan shows an important, though complicated, case study in the interchange of wildlife conservation, rural bread and butter, and economic progress. started in 1983 by the Wildlife Wing of the Khyber Pakhtunkhwa (KPK) Forest Department under the supervision of Dr. Mumtaz Malik and in cooperation with the Shikar Safari Club, the program was initially plan to manage trophy hunting more importantly of the threaten Markhor goat by providing controlled hunting permits to external hunters. However, in the beginning the program did not involve the community. The money which was coming from the trophy hunting was not used in the development of co-existed communities but totally taken by the provincial government(Ahmed, J., & Sattar, S., 2001). This became the cause of the failure of this program and lot of criticism was faced by this program, finally asked for participatory conservation model. This program was more effected when ban was imposed on the big game trophy. Stepped to save the wild life was temporarily stopped which was totally depended on the international market. After the negotiation of conservationists and hunting association, the ban was taken up, and under the strict rule's trophy hunting was again started, more emphasizing over the sustainability. Rich international hunters again were allowed for a controlled number hunting especially of markhor, with the permits costing up to US\$25000 and Himalayan Ibex which was costing about US\$3000 per license. These prices show that how much funds trophy hunting can generate for local communities and government(Ahmed, J., & Sattar, S., 2001).

Although the hunters were paying big amount but still, they were not allowed to hunt the endangered markhor goat on the other hand prices to hunt the Ibex were lower than other hunting activities for local hunters. This difference caused problems between local people and international hunters. People became more concerned if the money generated from trophy hunting, fairly distributing or not (Zafar, M. Khan B. Khan E. Garee A. Khan A. Rehmat A. & Hussain E., 2014). Although program was facing challenges, still it was getting ground in other areas od Pakistan, especially in Gilgit-Baltistan and Baluchistan. Torghar hill in Baluchistan is the best example where the trophy hunting was started under the supervision of Sardar Naseer Tareen. This step not only encourage local community people to participate, monitor and enforce law in trophy hunting but also provided the benefits to the local communities directly with the funds generated through trophy hunting(U.S. House Committee on Natural Resources.



(2016). The Economic Importance of Trophy Hunting in African Countries.) (Lipy Adhikari, Babar Khan., 20 June, 2021.)

According to (Arshad, M., Garson, P.J., & Ahmad, M., 2002), the Torghar program put up to a major in the development of the populations of essential wildlife species, including the Suleiman Markhor and Afghan Urial, between 1993 and 2000. The local communities were motivated to protect rather than hunt randomly, as their economic welfare became immediately connected with the continued existence of wildlife populations. Unconventional wildlife surveys directed during this period of time verified that wildlife population had multiplied in the region where community-based conservation programs were executed (Akumsi, A., 2003). The authorization of local public, combined with financial spur, created productive feedback, the better the conservation results, the greater the financial returns through controlled hunting license. Moreover, this program directed well-established dissatisfaction of underrated rural communities who felt eliminated from descending conservation approaches historically forced by the state or international NGOs.

Gilgit-Baltistan, another area rich in ecosystem diversity, also selected, alike trophy hunting programs, with remarkable progress in both conservation and development. Community-managed conservation areas started to grow, and funds generated from trophy hunting were invested into local infrastructure, health, and education. In one significant example in 2016, a single hunting permit for the Astor Markhor was exchanged for US\$55,700. The total income from Markhor hunting that year reached US\$248,000, of which 80% was allotted directly to local communities (Siraj ul Din, & Minhas, R. A., 2016). These funds were used for the establishment of schools, preservation of roads, supply of food and services for the deprived, and even jobs availability for youth through nature tourism and wildlife safety programs. The financial reasoning for trophy hunting prolonged across the Pakistan. In South Africa, for example, trophy hunting is a settled industry that provides approximately US\$250 million annually to the economy. It assists over 17,000 full-time jobs and benefits multiple sectors, including agriculture, manufacturing, transport, and financial services (Booth, V.R. , 2010). The financial increase effects are significant; studies show every dollar spent by a hunter, the total creation in the economy growth is around US\$1.84 (Booth, V.R. , 2010). In rural areas where job chances are short, trophy hunting can serve as a key root of livelihood and an instrument for poverty relief. Moreover, private game set aside in Southern Africa have enlarged notably in recent ten years, turning former farmland into wildlife habitats, thereby increasing eco diversity and creating extra job opportunities. (Siraj ul Din, & Minhas, R. A., 2016). However, the drill of trophy hunting is not without disputation. Virtuous issues have been raised worldwide, importantly when rare animals are killed for sport. For example, between 2005 and 2014, American hunters alone bring in over 1.26 million animal trophies, including 32,500 from Africa's so-called Big Five: lion, elephant, rhinoceros, leopard, and Cape buffalo (Lindsey, P.A., Roulet, P.A., & Romanach, S.S., 2007). These animals are not only ecologically important but also at risk or endangered; leading to fears that trophy hunting may damage wider conservation goals. Critics argue that permitting rich foreigners to kill notable species sends the wrong message about conservation and reinforces colonial design of land and resource use.

In Zimbabwe, where trophy hunting is legal and managed, the costs of hunting notable animals are importantly high up to US\$38,000 for an elephant and US\$19,500 for a lion (U.S. House Committee on Natural Resources.. The Economic Importance of Trophy Hunting in African Countries., 2016). While these fees can raise critical income for local communities and



conservation authorities, there is continues debate over how an honest and effectively this money is used. In some cases, mismanagement, corruption, and lack of community participation have led to failures in conservation and make a problem between wildlife authorities and local people. Overall, trophy hunting will be a divided problem. On one hand, when regulated with strong community participation, honest governance, and scientific control, it has exhibit real benefits for both wildlife conservation and human progress. The progress stories from Pakistan's Torghar Hills and Gilgit-Baltistan, as well as South Africa's private preserve, show the capacity of well-managed hunting programs to save the rare species while upgrading the rural livelihoods. On the other hand, ethical problems, unfair benefit distribution, and cases of misuse have stared worldwide public criticism, especially in the global North. This problem emphasizes the need for complete policies that balance ecological sustainability, ethical responsibility, and socioeconomic equity. (Barnett, R & Patterson C., 2006)

For trophy hunting to be a workable conservation tool, many orders must be met. First, the participation of local communities must be crucial not outer. Their traditional knowledge, cultural values, and material needs should be merged into conservation planning. Second, funds from hunting must be dispense honestly and transparently, with mechanisms in place to detector how funds are used. Third, conservation decisions should be based on careful scientific data to make sure that hunting quotas do not excel the reviving range of species populations. Finally, ethical considerations must be conveyed, possibly by shifting the industry away from hunting at risk species toward more huge and strong populations. Trophy hunting engages a compound space between conservation, commerce, and culture. While it has helped to raise key funds for conservation and rural development in places like Chitral, Gilgit-Baltistan, South Africa, and Zimbabwe, its future depends on a graceful balance between sustainability, ethics, and fairness. Policymakers must identify the important realities of the communities who live besides wildlife and make sure that conservation plans are both ecologically sound and socially all in. (A report by the Democratic staff of the House Committee on Natural Resources, 13 June, 2016)

### **3. Methodology**

Research is a logical and organize way to find new and useful knowledge about a specific topic. It helps to find solutions to scientific and social issues using clear and strategical study. It is a way to get information, which means finding hidden truths. Knowledge is information about things. This information can come from different sources like personal experiences, people, or books. Through research, new ideas can be added to what we already know. Only by doing research we can grow in a field. Research is a part of how a nation grows in areas like economy, society, and politics. Scientific research can also change how people think about the world. Problems studied in research often go beyond science. Research is not just for science and technology. There are many other areas of research, like languages, literature, history, and sociology. This study used a quantitative research design to collect data using a simple random sampling method. The population is the group of people from which the sample is chosen using a sampling method. Hushe is a beautiful village in Ghanche. It has 160 households, and the population is nearly 1,400. Hushe valley was the area chosen for this study. The researcher wanted to find out how trophy hunting affects the community's economy and society. In this study, 80 household heads were selected as respondents using a simple random sampling method. In Simple Random Sampling, each person has an equal chance of being chosen. The lottery method was used to select the sample.

A sample is a small part of a group (called the population) that is studied to understand the whole group. It includes some people selected from the population. 80 people were randomly chosen from a group of 160 people. This sample represents the larger group. SPSS is a software program for Windows that helps with entering and analyzing data. It can also create tables and graphs. SPSS can manage a large amount of data and can do all the types of analysis mentioned in the study and more. SPSS is often used in social sciences and also in business (Bronstad & Hemmesch, 2010). Univariate analysis means studying data that includes only one variable. It is used to test ideas (hypotheses) and make guesses about the whole group based on the sample. Univariate analysis looks at just one thing at a time and is usually the first step when looking at new data. For example, in a survey, we may want to know how many people answered "Yes" or "No," or how many people "Agreed" or "Disagreed" with a statement. In this type of analysis, we are not testing a full hypothesis with both independent and dependent variables. We are just looking at how the responses are spread out (Tabachinick B. G & Fidell, L.S., 2007)

### 3. Maps of the Study Area

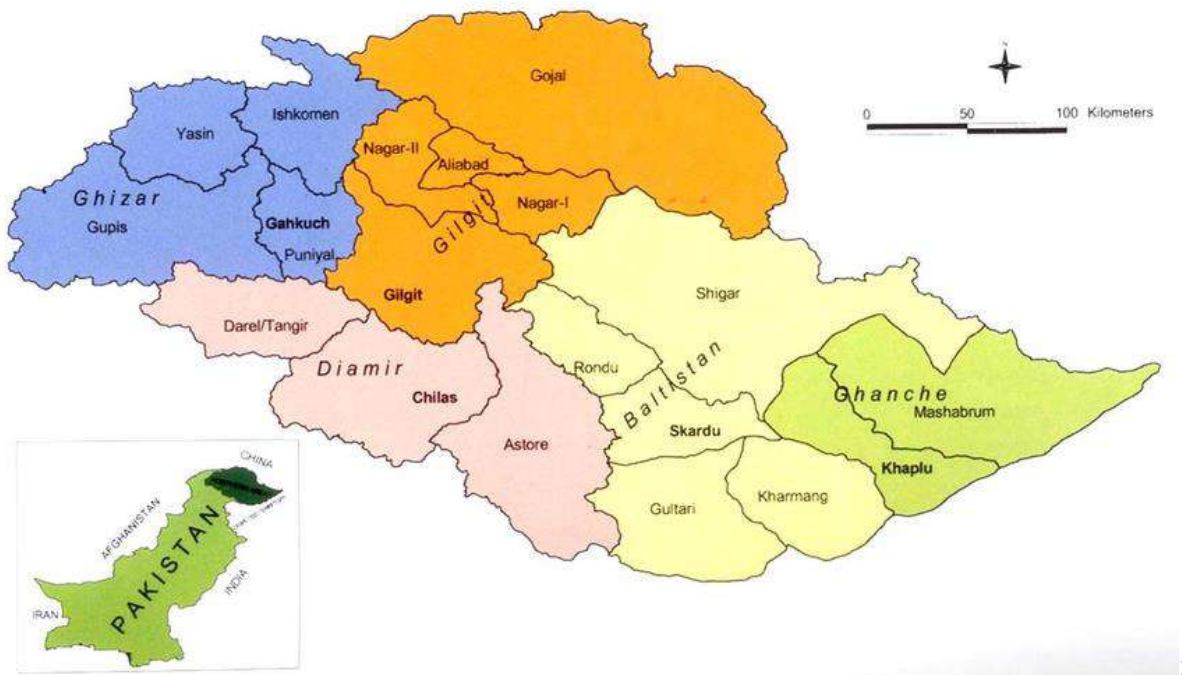


Figure 1: Ghanche district of Gilgit-Baltistan, Pakistan

<sup>1</sup> Ali, Hussain (2009). Ghanche district of Gilgit-Baltistan, Pakistan. Available from: [https://www.researchgate.net/figure/figure-1-Geographical-location-of-Northern-Areas-Pakistan-Subdivisions-The-Northern\\_fig1\\_268388539](https://www.researchgate.net/figure/figure/figure-1-Geographical-location-of-Northern-Areas-Pakistan-Subdivisions-The-Northern_fig1_268388539)

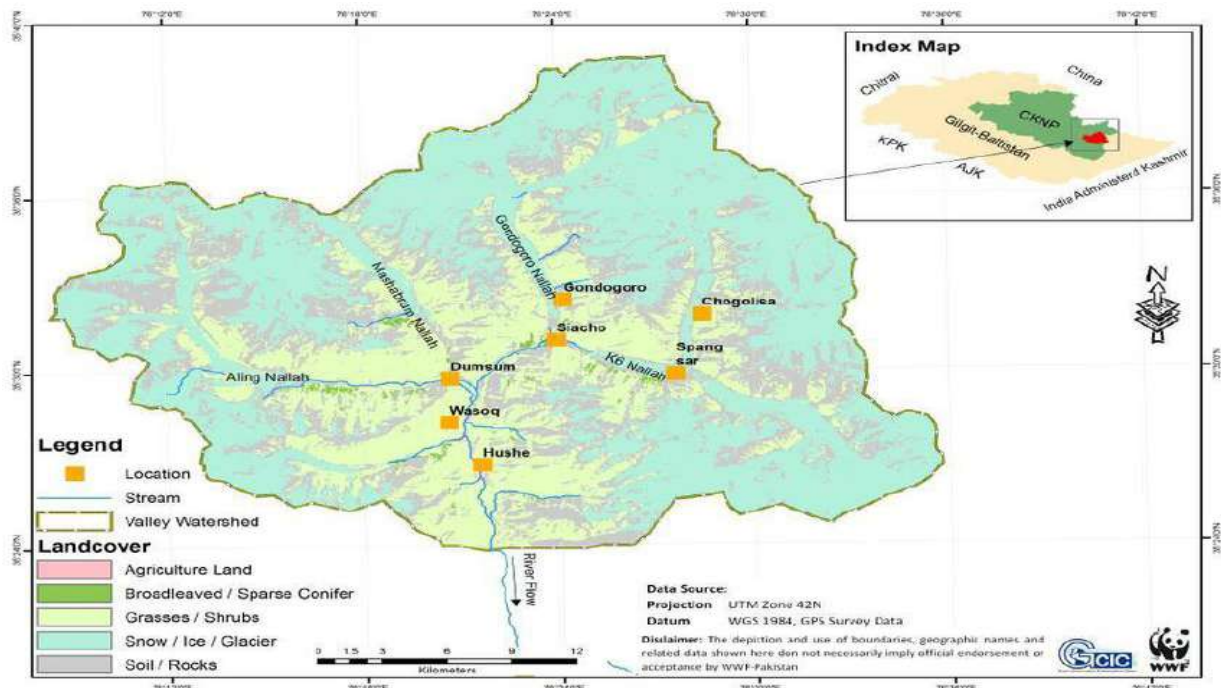


Figure 2: Hushe Valley in the Ghanche district of Gilgit-Baltistan, Pakistan

### A. Case Study 1 (Haji Rozi Ali)

He is the president of the village conservation committee. According to him, trophy hunting started in 1997, and the first hunter came from Holland. The committee's term is three years. The village conservation committee has seven members. Trophy hunting happens only once a year, between December and April. The community earns income from trophy hunting about 20 animals or less are hunted each year. The community spends 80% of this income on social activities like education, health, economy, sanitation, and irrigation. Markhor is the main animal hunted during trophy hunting. According to him, one illegal trophy hunting happened between 1997 and 2018, but the conservation committee caught the illegal hunter.

Trophy hunting fees are different:

A foreign hunter pays \$3200.

A Pakistani hunter pays 1.5 lakh rupees.

A local hunter pays 1-lakh rupees.

### B. Case Study 2 (Ali Pako)

He is a local hunter, and according to him, he encountered various issues during trophy hunting. One of the main problems was related to permissions sometimes he had to pay both the permission fee and license fee separately. However, in the trophy hunting procedure, the permission and license fee are considered the same. According to him, once he selects the hunting location, the committee sends one of their members along with the hunter. If the hunter misses the target, the committee deducts 5000 rupees from the total permit fee.

### C. Case Study 3 (Sakhawat Ali)

He is a representative of the Wildlife Department in GB. According to him, the hunting license is issued by the wildlife department, and the hunter is required to pay the permit fee based on



the Wildlife Act. If a hunted animal has horns almost 20 inches long, no hunting can take place without a No Objection Certificate (NOC). In case of any illegal hunting, the wildlife department can impose a fine of 65,000 rupees, with 80% of it handed over to the committee and 20% deposited into the wildlife account. Wildlife then transfers the total annual income to the committee president. The president, along with committee members, decides how the funds will be allocated. According to him, the last case of illegal hunting happened.

#### 4. Results and Discussions

This chapter includes tables and explains the numbers in them. The most important part of research is understanding and analyzing the data. This helps to group the data, explain it, and make conclusions from it. This also helps check if the research idea was correct. Data analysis helps to understand how different factors relate to each other and to the goal of the study. The researcher used SPSS (a software) to analyze the data and explain it in tables so that people can easily understand it.

Table 1 shows the age of the people who took part in the study 31.25% of them were between 25 and 45 years old 45% were between 46 and 65 years old (the largest group) 23.75% were between 66 and 85 years old. Data shows the relationship status of the people in the study. Most of them (72.5%) are married 15% are divorced 7.5% are separated, and 5% have lost their spouse (widowers) Explanation of Table 4.3 (Marital Status). This means most people are married, and the divorce rate is normal. It also shows that people tend to get married at a young age in this community, and most seem to live satisfied lives. Above table shows the education level of the respondents: 42.5% cannot read or write (illiterate) 37.5% finished only primary school. Very few people reached higher education: only 1.25% each completed Bachelor's or Master's degrees.

No.	Variable	Dominant Response	Percentage (%)	Key Insight
1	Age Group	46–65 years	45.0	Majority of respondents are middle-aged adults.
2	Marital Status	Married	72.5	High marital stability in the community.
3	Education Level	Illiterate	42.5	Significant literacy gap exists in the region.
4	Occupation	Labor	85.0	Labor-intensive livelihood dominates the valley.
5	Livestock Ownership	Goat	37.5	Goats are the most commonly owned livestock species.
6	Annual Income from Trophy Hunting	16–30 lacs	91.2	Trophy hunting provides substantial household income.
7	Community Development Benefits	Education	46.3	Education is the most frequently reported area of development benefit.

Table 1 presents a detailed numerical analysis of the socio-demographic and economic characteristics of 80 respondents from Hushe Valley, Baltistan. The findings reveal significant demographic patterns and economic conditions within the community. A notable majority of respondents are middle-aged adults, specifically between 46 and 65 years old, representing



45% of the sample and indicating a predominantly mature population. Marital stability is high, with 72.5% of respondents identifying as married. However, there is a considerable educational gap, as 42.5% of individuals are illiterate, highlighting the urgent need for targeted educational initiatives. Economically, the community is largely engaged in labor-intensive activities, with 85% of respondents participating in manual labor, which underscores a reliance on physically demanding livelihoods. Livestock ownership is common, especially goats, which are owned by 37.5% of the respondents, illustrating their significance to household economies. Additionally, income derived from trophy hunting is considerably high, with 91.2% of individuals earning between 16 to 30 lakh rupees annually, suggesting that trophy hunting is a crucial source of household income. Finally, community development efforts primarily focus on education, which is noted as the most significant benefit by 46.3% of respondents, reflecting the community's commitment to advancing educational opportunities.

The socio-demographic and economic characteristics of the Hushe Valley community, as revealed in Table 1, align with broader patterns observed in remote mountain regions of northern Pakistan, where aging populations, low literacy rates, and labor-intensive livelihoods remain persistent challenges (Kreutzmann, 2006). The predominance of middle-aged adults and the high rate of marital stability suggest a relatively settled and traditional social structure. However, the high illiteracy rate (42.5%) echoes concerns raised by UNESCO (2018), which highlights systemic barriers to education in marginalized regions, particularly for women and older adults. The community's reliance on manual labor (85%) reflects limited economic diversification and mirrors findings from Ali and Benjaminsen (2005), who note the prevalence of physical labor in high-altitude livelihoods due to lack of access to formal employment sectors. Livestock ownership, especially goats, continues to be a vital economic asset, as also emphasized by Khan et al. (2013), who documented its role in sustaining household food security and income. Interestingly, the significant income generated from trophy hunting—where 91.2% earn between 16 to 30 lakh annually—supports literature on community-based conservation programs, such as those described by Shackleton (2001), where regulated trophy hunting has contributed to both wildlife conservation and rural incomes. The prioritization of education in community development programs, acknowledged by 46.3% of respondents, is a promising sign of local aspirations aligning with global development goals (SDG 4), although sustained policy support and infrastructural investment are crucial for long-term impact.



**Table 2. Summary of Community Perceptions and Outcomes of Trophy Hunting in Hushe Valley, Baltistan (N = 80)**

No.	Variable	Dominant Response	Percentage (%)	Key Insight
1	Change in Wildlife Population	No Change	67.50	Majority perceived no significant change in wildlife population.
2	Main Hunted Species	Ibex	98.80	Ibex is overwhelmingly the primary species hunted in the region.
3	Satisfaction with Income from Hunting	Satisfied	82.50	High satisfaction with income generated through trophy hunting.
4	Satisfaction with Wildlife Conservation	Satisfied	70.00	Most respondents feel hunting aids wildlife conservation efforts.
5	View on Community Participation	Satisfied	51.25	Slight majority believe community participation is adequate.
6	Satisfaction with Employment Opportunities	No Change	53.80	Over half reported no improvement in job opportunities.
7	Satisfaction with Local Infrastructure	No Change	42.50	Mixed views on infrastructure development outcomes.
8	Satisfaction with Revenue Transparency	Satisfied	57.50	Moderate satisfaction with transparency of hunting revenue use.
9	Satisfaction with Education Improvement	Satisfied	43.80	Education seen as moderately improved due to hunting revenues.
10	Satisfaction with Health Facilities	Satisfied	61.20	Majority believe healthcare has benefited from hunting-related funds.
11	Satisfaction with Water Supply	No Change	55.00	Most feel there is no change in water supply situation.
12	Satisfaction with Environmental Awareness	No Change	73.80	Majority report no improvement in environmental awareness efforts.



Table 2 provides a comprehensive overview of community perceptions and perceived outcomes related to trophy hunting in the Hushe Valley, Baltistan, based on responses from 80 individuals. The data reveal that the majority of respondents do not perceive significant changes in wildlife populations, with 67.5% observing no noticeable differences. The ibex is identified as the most hunted species, with an overwhelming 98.8% of respondents acknowledging its prominence in trophy hunting activities. Satisfaction levels regarding income from trophy hunting are high, with 82.5% expressing contentment, and a similar proportion (70%) believes that hunting makes a positive contribution to wildlife conservation efforts. Community participation in hunting-related activities is deemed adequate by 51.25% of respondents; however, more than half (53.8%) report no improvement in employment opportunities attributed to hunting. Perceptions regarding local infrastructure are mixed, with 42.5% indicating no change. Satisfaction with revenue transparency from hunting proceeds is moderate, with 57.5% of respondents expressing satisfaction, while 43.8% perceive only moderate improvements in educational outcomes resulting from hunting revenues. Healthcare facilities seem to have benefited, with 61.2% of respondents expressing satisfaction. In contrast, most respondents feel that there has been no significant change in water supply and environmental awareness, with 55% and 73.8% indicating no improvement, respectively. Overall, the community acknowledges certain benefits from trophy hunting while also recognizing areas where progress remains limited.

The findings presented in Table 2 illustrate a nuanced community perspective on trophy hunting in the Hushe Valley, reflecting both the perceived benefits and limitations of this conservation-linked economic activity. The overwhelmingly high recognition of ibex as the primary species targeted for hunting (98.8%) aligns with conservation literature that identifies mountain ungulates as central to trophy hunting programs in Pakistan's highlands (Dar, Minhas, & Zaman, 2012). While the majority of respondents express satisfaction with income generated from hunting (82.5%) and believe it contributes positively to wildlife conservation (70%), the lack of perceived improvement in employment (53.8%) and infrastructure (42.5%) raises questions about the equitable distribution and long-term community impact of hunting revenues. These findings echo concerns raised by Bhatia et al. (2020), who argue that while community-based trophy hunting programs can deliver conservation gains and financial benefits, their success heavily depends on governance transparency, benefit-sharing mechanisms, and the integration of broader development goals. Moderate satisfaction with revenue transparency (57.5%) and limited perceived impact on education (43.8%) and environmental awareness (73.8% reporting no improvement) further suggest the need for greater accountability and complementary awareness programs. However, satisfaction with healthcare improvements (61.2%) indicates that trophy hunting income may be selectively supporting key services. Overall, while the community acknowledges the economic and conservation merits of trophy hunting, the findings highlight critical gaps in perceived social development, suggesting that a more participatory and inclusive approach could enhance the program's legitimacy and sustainability.



## Major Findings

This study investigated the socio-cultural and economic impacts of trophy hunting in the Hushe Valley, Ghanche District, Baltistan, through data collected from household heads. The key findings are as follows:

1. **Perceptions of Wildlife Trends:** A majority of respondents (67.5%) reported no observable change in natural species due to trophy hunting, while 16.3% observed an increase and an equal percentage reported a decrease.
2. **Transport and Religious Values:** Only 8.8% of respondents were satisfied with transportation improvements linked to trophy hunting revenue; 73.8% saw no change. Regarding religious values, 26.2% noted a positive impact, 55.0% reported no change, and 18.8% expressed dissatisfaction.
3. **Biodiversity and Environment:** 61.2% of respondents expressed satisfaction with changes in local wildlife species. Environmental improvements were acknowledged by 43.8%, although 41.2% perceived no change.
4. **Social and Cultural Changes:** More than half of the respondents (57.5%) were satisfied with the broader social impacts of trophy hunting, while 22.5% saw no change and 20.0% were dissatisfied.
5. **Irrigation and Infrastructure:** Improvements in the irrigation system were limited, with only 17.4% expressing satisfaction, 53.8% reporting no change, and 28.8% dissatisfied.
6. **Economic Upliftment:** A majority (58.8%) observed positive changes in household economic conditions, reflecting the financial benefits of hunting. However, 35.0% saw no change and 6.3% expressed dissatisfaction.
7. **Education and Health Services:** Trophy hunting was viewed positively in terms of education (70.0% satisfaction) and health improvements (82.5%), indicating significant investment in public welfare from hunting revenues.

## Conclusion

The findings of this study underscore that trophy hunting functions as a multidimensional tool influencing the social fabric, cultural values, and economic conditions of rural mountain communities such as Hushe. In resource-constrained contexts, it serves as a pragmatic strategy for wildlife conservation while simultaneously supporting local development.

From a sociological perspective, the practice of trophy hunting is embedded within broader institutional, economic, and cultural structures. The study highlights four key dimensions:

1. **Policy and Legal Frameworks:** Trophy hunting in Hushe is governed by evolving strategies and conservation laws, increasingly aligned with global environmental expectations.
2. **Governance and Institutional Oversight:** The administration of trophy hunting has expanded, but persistent institutional weaknesses hinder effective implementation, accountability, and community engagement.
3. **Financial Contributions to Conservation:** Revenues generated from hunting have contributed to public services, including education, health, and species management, particularly where government support is limited.
4. **Emerging Challenges:** Despite positive impacts, the sector faces significant challenges including administrative inefficiencies, limited transparency, and lack of adaptive planning in the face of climate change and shifting global attitudes toward wildlife commodification.



Thus, trophy hunting remains a contested yet valuable approach in rural conservation strategy—offering tangible socio-economic benefits but demanding stronger institutional frameworks to ensure ethical, sustainable, and community-led outcomes.

### Recommendations

Based on the findings, the following recommendations are proposed to enhance the effectiveness and sustainability of trophy hunting as a tool for conservation and rural development:

1. **Adopt Sustainable Harvesting Practices**

Implement scientifically informed and culturally sensitive wildlife harvesting methods to ensure population viability and ecological balance.

2. **Reframe Public Perceptions of Trophy Hunting**

Launch awareness campaigns that highlight the socio-economic and conservation benefits of trophy hunting to reshape its image both locally and internationally.

3. **Integrate Conservation Incentives**

Introduce wildlife conservation credits and benefit-sharing mechanisms that offset opportunity costs for local communities, thereby incentivizing long-term stewardship and reduced hunting pressures.

4. **Enhance Institutional Governance**

Strengthen local institutions through capacity-building, policy enforcement, and participatory governance models that empower communities in decision-making processes.

5. **Foster Alternative Livelihoods**

Promote complementary initiatives such as eco-tourism, handicrafts, and community-based conservation projects to diversify income sources and reduce overreliance on trophy hunting.

### References

- Ahmed, J., & Sattar, S. (2001). *Community-based natural resource management in Pakistan*. IUCN Pakistan.
- Akumsi, A. (2003). *Wildlife surveys in community conservation areas in Pakistan*. WWF-Pakistan.
- Ali, H., Malik, M. S., Himayatullah Khan, Shah, M., & Khan, M. (2015). Socio-economic benefits of community-based trophy hunting programs in Pakistan. *Environmental Economics*, 6(1).
- Ali, J., & Benjaminsen, T. A. (2005). Politics of development and conservation: The case of the Balti communities in northern Pakistan. *Norwegian Journal of Geography*, 59(3), 204–215.
- Arshad, M., Garson, P. J., & Ahmad, M. (2002). *Conservation and management of Markhor in the Torghar Hills, Pakistan*. IUCN.
- Barnett, R., & Patterson, C. (2006). *Sport hunting in the Southern African Development Community (SADC) region: An overview*. TRAFFIC East/Southern Africa.
- Booth, V. R. (2010). *The contribution of hunting tourism: How significant is this to national economies?* FAO & CIC.
- Dar, N. I., Minhas, R. A., & Zaman, Q. (2012). Trophy hunting and conservation: A case study of markhor hunting in northern Pakistan. *Pakistan Journal of Zoology*, 44(5), 1249–1255.
- Doc, C. (2001). *Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES)*. [Official document].



- Frisina, M. R. (2000). *Suleiman Markhor (Capra falconeri jerdoni) and Afghani Urial (Ovis orientalis cycloceros) population status in the Torghar Hills, Balochistan Province, Pakistan*. Society for Torghar Environmental Protection.
- Khan, M. T., Ahmad, M., & Shahbaz, B. (2013). Livestock's contribution to household economy in mountain regions: Evidence from northern Pakistan. *The Journal of Animal and Plant Sciences*, 23(2), 556–563.
- Kreutzmann, H. (2006). People and Mountains: Interactions in the Hindu Kush-Karakoram-Himalaya. In: H. Kreutzmann (Ed.), *Karakoram in Transition*. Oxford University Press.
- Lindsey, P. A., Roulet, P. A., & Romanach, S. S. (2007). Economic and conservation significance of the trophy hunting industry in sub-Saharan Africa. *Biological Conservation*, 134(4), 455–469. <https://doi.org/10.1016/j.biocon.2006.09.005>
- Lipy Adhikari, & Babar Khan. (2021, June 20). Community-based trophy hunting programs secure biodiversity and livelihoods: Learnings from Asia's high mountain communities and landscapes. *ScienceDirect Preprint*. <https://doi.org/10.1016/j.sciadv2021.01.054>
- Milliken, T., Emslie, R. H., & Talukdar, B. (2009, November). *African and Asian rhinoceros—IUCN status, conservation and trade*. IUCN SSC Rhino Specialist Group & TRAFFIC.
- Muhammad Abubakar, & Shrestha, K. (2021, March 25). The story behind why Gilgit-Baltistan allows trophy hunting. *The Express Tribune*.
- Packer, C., Brink, H., Kissui, B. M., Maliti, H., Kushnir, H., & Caro, T. (2011). Effects of trophy hunting on lion and leopard populations in Tanzania. *Conservation Biology*, 25(1), 142–153.
- Shackleton, D. M. (2001). Wild sheep and goats and their relatives: Status survey and conservation action plan for Caprinae. IUCN.
- Siraj ul Din, & Minhas, R. A. (2016). Economic benefits of trophy hunting in Gilgit-Baltistan. *Pakistan Journal of Wildlife Studies*.
- Tabachnick, B. G., & Fidell, L. S. (2007). *Using multivariate statistics (5th ed.)*. Boston: Pearson.
- U.S. House Committee on Natural Resources, Democratic Staff. (2016, June 13). *The economic importance of trophy hunting in African countries* (Report). U.S. Government Publishing Office.
- Ubaid Sahil. (2025, February 2). The end of the trophy hunt. *The Friday Times*. [Article].
- UNESCO. (2018). *Global Education Monitoring Report: Migration, displacement and education – Building bridges, not walls*. UNESCO.
- Zafar, M., Khan, B., Khan, E., Garee, A., Khan, A., Rehmat, A., & Hussain, E. (2014). Abundance, distribution and conservation of key ungulate species in the Hindu Kush-Karakoram-Western Himalayan mountain ranges of Pakistan. *International Journal of Agriculture and Biology*, 16(6).
- Bhatia, S., Redpath, S. M., Suryawanshi, K. R., & Mishra, C. (2020). Beyond conflict: Exploring community tolerance for snow leopards in the Indian Himalayas. *Global Ecology and Conservation*, 21, e00852.