

Impact of Workers' Remittances on Households' Standard of Living: A Case Study of District Washuk, Balochistan

Mohyu Deen¹, Dr. Hazrat Yousaf², Atiq Ur Rehman³

¹MS Scholar, Department of Economics, Faculty of Management and Social Sciences, Lasbela University, Uthal, Balochistan, Pakistan, Email: mdbaloch089@gmail.com

²Associate Professor, Department of Economics, Lasbela University, Uthal, Email: dr.yousaf@luawms.edu.pk

³Lecturer, Department of Economics, Lasbela University, Uthal.

Abstract

Worker remittances play a vital role as a major source of household income and foreign exchange earnings in South Asian countries, particularly Pakistan. Pakistani emigrants contribute significantly to the economies of host countries, while their remittances positively influence the socioeconomic conditions of families in their home country. This study investigates the socioeconomic status of remittance-receiving households and examines the impact of remittances on household living-standard indicators, including education, health, transportation, electricity, food, and housing expenditures, in District Washuk, Balochistan. A total of 125 remittance-receiving households and 125 non-remittance households were surveyed through a convenience sampling technique. Data were analyzed using the Weighted Least Squares (WLS) model and an independent-samples t-test. The results reveal that 43.2% of households reported education-related expenditures, while the majority had limited or no spending on education. Most households (54.4%) owned no durable assets, reflecting low material wealth, whereas only 16.8% owned at least one durable item. Income distribution showed that many households earned between PKR 70,000 and PKR 100,000 per month, while only about 13% earned above PKR 130,000. The findings indicate that foreign remittances significantly increase household purchasing power, leading to greater spending on housing and other essential needs. A positive relationship was observed between household income and expenditures on education, health, transportation, electricity, and food. Education and health expenditures showed stronger elasticity, suggesting that higher-income households invest proportionately more in human capital. Transportation, electricity, and food expenditures also increased with income, reflecting improved living standards and better consumption patterns. Overall, remittance-receiving households demonstrated better living conditions than non-remittance households, and an independent-samples t-test confirmed a statistically significant difference in mean income between the two groups ($t = 3.404$, $p = 0.001$). The study concludes that remittances significantly improve household income, welfare, and socioeconomic conditions in District Washuk. It further recommends that remittances be channeled toward productive and income-generating activities rather than concentrated mainly on consumption expenditure.

Keywords: Worker remittances; household livelihood; socioeconomic status; standard of living; District Washuk; Balochistan

Received 04 May 2026; Revised 09 June 2026; Accepted 19 June 2026; Published (online) 26 June 2026



Attribution 4.0 International ([CC BY 4.0](https://creativecommons.org/licenses/by/4.0/))

Corresponding Author Email: mdbaloch089@gmail.com

DOI: <https://doi.org/10.69671/socialprism.3.4.2026.175>

Introduction

Background

Remittances are a defining feature of contemporary international migration: the transfer of money by migrants back to their families in sending countries (Bibi & Ali, 2022). The COVID-19 pandemic disrupted global mobility sharply—worldwide travel activity fell from 4.5 billion trips in 2019 to 1.8 billion in 2020—yet the number of international migrants continued to rise, from 272 million in 2019 to 281 million in 2020 (Saleem et al., 2022), suggesting that the underlying drivers of migration proved resilient even as mobility patterns were disrupted.

Remittances have become one of the most important sources of household income and foreign exchange for developing economies, particularly in South Asia, where they have consistently contributed to GDP growth (Jayaweera et al., 2021). The World Bank (2022) estimated that remittances to the East Asia and Pacific region alone would reach USD 134 billion, with the wider Asia-Pacific region receiving close to a quarter of the USD 436 billion in remittances flowing to developing economies (Mas'udah, 2020). At the household level, evidence from national living-standards surveys shows that remittance income is spent across a wide range of needs—food, clothing, health care, schooling, home repairs, and agriculture (Mishra et al., 2022)—and that recipient households consistently display higher consumption spending than non-recipient households (Adams & Cuecuecha, 2019).

The channels through which remittances raise welfare are well documented. Additional household income raises demand for education and health services, which in turn improves school enrolment, human-capital accumulation, and long-run earnings (Yang, 2021). Remittances have also been linked to poverty alleviation, business formation, and community-level investment in health and education infrastructure in less-developed regions. At the macro level, remittances raise national savings and facilitate new investment, and migrants frequently remit specifically to build or improve family housing (Golder et al., 2023; Joarder et al., 2017; Jayaweera & Verma, 2023).

In Pakistan, remittance-to-GDP ratios have historically been substantially higher than in developed economies, underscoring their importance for foreign-exchange stability and household welfare (Azam, 2015). Pakistani expatriates are widely regarded as playing a critical role in supporting both the domestic economy and household living standards, cushioning the effects of limited exports and foreign direct investment (Javed et al., 2017; Hua et al., 2022). At the same time, part of the literature cautions that remittances can create dependency, reduce labour supply, or be absorbed largely into consumption rather than productive investment (Joarder et al., 2017; Mustafa, 2018). Evidence on housing is particularly relevant to this study: remittances have been shown to raise housing demand, improve housing quality, and fund the construction, repair, and expansion of homes in migrant-sending communities (Amega, 2018; Quashie, 2019; Ahmad et al., 2018), while rapid urbanization in Pakistan has simultaneously widened the gap between housing demand and supply in major cities.

Despite this large body of international and national evidence, very little is known about how remittances shape household welfare in Balochistan's District Washuk, an area characterized by a high dependence on remittances from family members working elsewhere in Pakistan or abroad. This study addresses that gap by examining the socioeconomic profile of remittance-receiving

households in Washuk and estimating the impact of remittances and related household characteristics on the budget shares households allocate to education, health, housing, electricity, transportation, and food.

Statement of the Problem

The effect of remittances on the standard of living of households has emerged as a major research topic, especially in developing regions such as Balochistan. District Washuk is characterized by a high proportion of households that depend on remittances sent by family members working elsewhere. While these transfers are widely presumed to alleviate the economic difficulties of recipient households, their precise implications for local living standards—income, housing, education, and health—remain empirically underexamined. This study analyzes the role of remittances in shaping these facets of household welfare and identifies both the direct and indirect impacts of remittances on the socioeconomic wellbeing of households in the district, with a view to informing policymakers and development agencies who design interventions for remittance-receiving communities.

Research Objectives

1. To investigate the socioeconomic status of remittance-receiving households, including those whose members work as laborers, drivers, farmers, and office workers.
2. To estimate the impact of remittances and other relevant household characteristics on household standard-of-living indicators, using econometric analysis to assess the significance of remittances and other determinants of household living standards.

Research Questions

1. What is the socioeconomic status of various remittance-receiving households in District Washuk?
2. What is the impact of remittances and other relevant factors on households' living-standard indicators?

Review of Literature

Over the past two decades, worker remittances have drawn sustained attention from researchers across economics, sociology, and development studies, given their growing weight in the global economy. This section reviews the empirical literature on the relationship between remittances and household welfare, organized around four themes: housing and asset accumulation, poverty and income growth, human-capital investment, and macroeconomic and financial-development effects, before identifying the specific gap this study addresses.

Remittances, Housing, and Household Assets

Ahmed et al. (2020), using the Household Integrated Economic Survey (HIES) 2015–16 and a Heckman sample-selection model combined with a hedonic pricing approach, found that remittances significantly and positively affect housing demand in Pakistan's large cities: remittance income raises households' purchasing power, increases spending on housing, and improves

rooms-per-person as a measure of accommodation capacity, with this effect fairly uniform across provinces. The authors note a double-edged implication—remittances help ease housing shortages for recipient families but may also contribute to overcrowding in large cities as rural populations relocate toward urban centers such as Lahore, Karachi, and Rawalpindi (Ahmad et al., 2018).

Similar housing effects are documented outside Pakistan. Quashie (2019) found that remittances improved housing quality in Caribbean cities through new room construction, repairs, and expansions, while Ali et al. (2019) reported that remittances reduced poverty and raised living standards among Sub-Saharan African households. Jayaweera and Verma (2023), using propensity-score matching to address self-selection in remittance receipt, found that remittances in Sri Lanka significantly raised housing spending, affordability, and total household assets, although effects on housing quality were more modest and varied by sector and income level.

Remittances, Poverty, and Household Income

Khan et al. (2018) surveyed 73 households across 12 villages in Upper Dir District and found a steady rise in migration over time, with most household income derived from domestic and foreign remittances; these funds were largely channeled into productive activities that improved household welfare and village-level development, although high up-front migration costs (visa fees, air tickets, work permits) remained a persistent barrier, often financed through asset sales or informal borrowing. A related study of District Swabi (Khan et al.) reported comparable patterns: rising migration, productive use of remittances, and meaningful income gains for beneficiary households, again constrained by the initial costs of migration.

At the national level, households receiving remittances in Pakistan spend considerably more on consumption, are less likely to be poor, and own more assets than non-recipient households (Ullah, 2025), a finding corroborated by logistic-regression evidence that higher remittance inflows lower the probability of poverty (Shair et al., 2024). Regional case studies reinforce this pattern: remittances improved income, health, education, and subjective wellbeing in the Frontier Region of Dera Ismail Khan (Dil & Ali, 2024) and were associated with higher education spending and discretionary consumption in District Mohmand, Khyber Pakhtunkhwa (Hassan & Khan, 2025). Using general-equilibrium and micro-econometric methods, Ahmed et al. (2020) further showed that a fall in remittances reduces GDP, investment, and household consumption while raising poverty, whereas remittance-receiving households are 12.7% less likely to be poor, with the Gini coefficient and poverty headcount ratio falling by 4.8% and 7.8%, respectively, among such households.

Evidence from other developing regions is broadly consistent. Kapri and Jha (2020), using three rounds of the Nepal Living Standards Survey, found that both domestic and international remittances significantly reduce deprivation across a composite of living-standard indicators, with international remittances showing a larger effect (6.5% versus 6.1% reduction in deprivation) and both reducing deprivation in access to drinking water and household assets. Javid et al. (2021) reported that remittance inflows had a positive and statistically significant effect on both economic growth and poverty reduction in Pakistan between 1973 and 2010, although findings varied somewhat by province. Not all evidence is uniformly positive, however: Kayani (2021) found an insignificant relationship between remittances and poverty reduction in Kyrgyzstan, at-

tributing this to the fact that remittances there are not strongly pro-poor, since migrants to Russia tend to come from relatively affluent families; and Faridi and Mehmood (2014) found a negative long-run relationship between remittances and poverty in Pakistan over 1980–2016, alongside a statistically insignificant short-run relationship.

Cross-country and macro-level studies add further nuance. Al-Nsour (2020) found that remittances and economic growth had a statistically significant long-run effect on poverty in Jordan, while income inequality showed no significant relationship with poverty. Chowdhury et al. (2023), examining Bangladesh, Sri Lanka, and Vietnam over 1990–2019, found a negative relationship between remittances and GDP per capita in pooled OLS estimates, cautioning that policymakers need to actively channel remittances into productive sectors rather than assuming automatic growth benefits.

Remittances and Human-Capital Investment

A substantial literature links remittances to investment in education and health—the core components of human-capital formation. Aslam and Sivarajasingham (2023), using ARDL cointegration and Granger-causality methods on Sri Lankan time-series data (1975–2020), found both long- and short-run positive relationships between workers' remittances and human-capital formation, with bidirectional causality and impulse-response effects persisting for up to ten years. Dea and Rathab (2012) showed that remittance income in Sri Lanka is concentrated among lower-income households and has a positive, significant effect on children's health and education, though not on conspicuous consumption or asset accumulation—evidence, they argue, that remittance income is more targeted than other transfer income because senders monitor its use.

Mishra et al. (2022), using an instrumental-variable approach on 5,987 households from the Nepal Living Standards Survey (2010–11), found that remittances positively affect spending on both food and education, with implications for long-run labour productivity and economic growth through improved human-capital accumulation. More broadly, remittances have been found to raise school enrolment and completion rates, reduce indicators of undernourishment and child mortality, and—notably—to have gender-specific effects, increasing educational investment in girls relative to boys even where health effects do not differ by gender (Saadi, 2020; Adejumo & Ikhida, 2019). At the same time, migration of a productive household member can have offsetting welfare costs, and a portion of the literature stresses that remittances may reduce labour supply or foster dependency among recipients (Joarder et al., 2017).

Remittances, Financial Development, and Macroeconomic Effects

Jayaweera et al. (2021) found a long-run, bidirectional relationship between remittances and financial-sector development across major South Asian recipient countries, with a 1% rise in remittances associated with more than a 1% increase in private-sector lending. Golder et al. (2023), applying a Nonlinear ARDL model to Bangladeshi data (1988–2020), found that both positive and negative changes in remittances and financial development asymmetrically promote economic growth. Nanziri and Mwale (2023), using inverse-propensity weighting on 4,079 households in a high remittance-cost region of Southern Africa, found that household welfare rose by roughly 2% among remittance recipients, with non-remittance income sources also expanding—evidence of a broader multiplier effect that strengthens the case for reducing remittance transaction costs.

Research Gap

Taken together, this literature establishes that remittances generally raise household income, consumption, asset ownership, and human-capital investment, while effects on aggregate poverty, growth, and inequality are more context-dependent. Much of the Pakistan-specific evidence, however, draws on national household surveys (HIES/PSLM) or district-level studies in Khyber Pakhtunkhwa, leaving Balochistan—and District Washuk specifically—largely unexamined. Despite the widespread local assumption that remittances raise the standard of living of recipient households in Washuk, no empirical study has directly tested this claim. This study addresses that gap by providing an evidence-based assessment of how remittances affect household income, education, health, housing, and consumption patterns in District Washuk, contributing local empirical evidence to a literature that has, until now, been almost entirely national or cross-country in scope.

Data and Methodology

Primary data were collected from households in District Washuk, Balochistan, using a structured, close-ended questionnaire administered in February 2024. A sample of 125 remittance-receiving households was selected through convenience sampling, with sample size determined using Kothari's (2007) formula for a finite population at a 5% margin of error. For comparison, a matched sample of 125 non-remittance households was also surveyed.

Household living standards were modeled using an Engel-curve (budget-share) specification following Rukhsana (2021) and Kapri (2020), in which the budget share allocated to each expenditure category i (education, health, housing, electricity, transport, and food) is regressed on the logarithm of household income, the square of log income (to capture non-linearities), household size, and the number of employed household members:

$$W_i = \beta_0 + \beta_1 \ln(M) + \beta_2 [\ln(M)]^2 + \beta_3 (\text{household size}) + \beta_4 (\text{employees}) + \varepsilon_i$$

where $W_i = \text{Pixi} / M$ is the share of total household expenditure devoted to category i . Because the data are cross-sectional and heteroscedasticity is likely, the models were estimated using Weighted Least Squares (WLS). Two hypotheses, adapted from Kapri (2020), guided the analysis: (H1) the impact of remittances on household expenditure is positive; and (H2) this impact varies by expenditure category. An independent-samples t -test was additionally used to test whether mean household income differs significantly between remittance-receiving and non-remittance households.

Results and Discussion

Demographic and Socioeconomic Profile of Remittance-Receiving Households

The sample of remittance-receiving households is concentrated in the economically active age range: 37.6% of respondents were aged 35–44 and 33.6% were aged 25–34, with smaller shares aged 45 and above (16%) and 18–24 (12.8%) (Table 1). The overwhelming majority of respondents (96.8%) were married, and respondents' occupations were split between labourers (53.6%) and drivers (46.4%) (Tables 2–3), reflecting a workforce concentrated in manual, industrial, agricultural, and transport-related occupations.

Table 1: Age Distribution of Remittance-Receiving Respondents

Age Group	Percent
18–24	12.8%
25–34	33.6%
35–44	37.6%
45 and above	16.0%

Source: Author's computation from survey data, February 2024.

Table 2: Marital Status and Occupation of Respondents

Category	Group	Percent
Marital status	Married	96.8%
Marital status	Single	3.2%
Occupation	Driver	46.4%
Occupation	Labourer	53.6%

Source: Author's computation from survey data, February 2024.

Educational attainment is low: 89.6% of respondents had no formal education, 9.6% had completed secondary school, and only 0.8% had primary-level schooling (Table 3). Despite this, 43.2% of households reported incurring some education-related expenditure, most commonly in the range of PKR 15,000–20,000 per year, while 56.8% reported none, likely reflecting either subsidized/free schooling access or the limited educational participation implied by the low attainment figures.

Table 3: Educational Attainment and Education Expenditure of Respondents

Indicator	Category	Percent
Education level	No formal education	89.6%
Education level	Primary school	0.8%
Education level	Secondary school	9.6%
Incurs education expenses	Yes	43.2%
Incurs education expenses	No	56.8%

Source: Author's computation from survey data, February 2024.

Ownership of durable consumer assets is generally low, indicating limited accumulated material wealth: 54.4% of households owned no durable items at all, while 16.8% owned one item and 23.2% owned two (Table 4). At the same time, ownership of specific basic appliances was widespread—98% of households owned a refrigerator, 96% a washing machine, 100% a fan and a stove, 94% a solar panel, and 100% a motorcycle—suggesting that 'durable item' ownership in Table 4 reflects a narrower category of higher-value assets rather than basic household appliances.

Table 4: Durable Consumption Items Owned by Household

Number of Items Owned	Percent
0	54.4%
1	16.8%

2	23.2%
3	4.0%
4	0.8%

Source: Author's computation from survey data, February 2024.

Household monthly income among remittance recipients is concentrated in the moderate-to-upper-middle range: about 28% of households reported income between PKR 70,000 and 80,000, and a further 27% between PKR 90,000 and 100,000. A sizeable share (26.4%) reported income of PKR 110,000–120,000, while only around 13% of households earned above PKR 130,000, indicating that very high incomes remain uncommon even among remittance recipients. Household size is typically moderate: 29.6% of households have five members and 20% have six, with the frequency of larger households (ten or more members) tapering off sharply. All surveyed households reported drawing water from private wells or boreholes and electricity from the national grid, indicating no variation in these two indicators across the sample.

Household Expenditure Patterns

Household monthly expenditure is concentrated in the moderate range, with 58% of households spending between PKR 50,000 and 75,000 and a further 26% spending PKR 75,000–100,000. On specific categories, 84% of households spend PKR 3,000–3,500 per month on food, 49% spend PKR 2,000–3,000 on electricity, and transport spending is more dispersed, with a notable share of households reporting spending near PKR 10,000 monthly—consistent with the transport-intensive occupational profile of the sample (drivers and labourers).

Remittance-Receiving versus Non-Remittance Households

A direct comparison of remittance-receiving and non-remittance households ($n = 125$ each) reveals systematically higher expenditure among recipients across every category examined (Table 5). Remittance-receiving households spent, on average, PKR 17,386 on education compared with PKR 13,224 among non-recipients; PKR 65,000 on health compared with PKR 46,760; PKR 8,472 on transport compared with PKR 4,772 (more than double); PKR 2,344 on electricity compared with PKR 2,056; and PKR 5,900 on food compared with PKR 3,790 (nearly double). Remittance-receiving households also display substantially larger standard deviations in most categories, reflecting more heterogeneous spending patterns—plausibly linked to variation in remittance amounts, sending-country wage levels, and household-specific needs.

Table 5: Descriptive Comparison of Remittance-Receiving and Non-Remittance Households (PKR)

Expenditure Category	Remitted: Mean	Remitted: SD	Non-Remitted: Mean	Non-Remitted: SD
Education	17,386	6,196	13,224	4,650
Health	65,000	16,801	46,760	12,815
Transportation	8,472	3,570	4,772	822
Electricity	2,344	1,025	2,056	901
Food	5,900	3,076	3,790	1,315

Source: Author's computation from survey data, February 2024. $N = 125$ per group.

Determinants of Household Expenditure: Regression Results

Table 6 summarizes the core WLS results (log-income specification, Model 1) for both non-remitted (local) and remittance-receiving households across the five expenditure categories. For non-remittance households, income is a positive and statistically significant predictor of education ($\beta = 0.186$, $p < 0.05$), health ($\beta = 0.014$, $p < 0.01$), electricity ($\beta = 0.003$, $p < 0.01$), and food expenditure ($\beta = 0.022$, $p < 0.05$), with R^2 ranging from 0.28 for education up to roughly 0.80 for health expenditure, indicating that income is a considerably stronger predictor of health spending than of education spending among non-recipient households.

Among remittance-receiving households, the relationship between income and expenditure is uniformly positive and statistically significant at the 1% level across all five categories: education ($\beta = 0.112$), health ($\beta = 0.253$), electricity ($\beta = 0.024$), transport ($\beta = 0.064$), and food ($\beta = 0.053$), with R^2 values ranging from 0.43 (education) to 0.82 (electricity). Notably, the income elasticity of health expenditure among remittance recipients (0.253) is more than double that of non-recipients (0.014 on the log scale in the base model, or 4.18 in the quadratic specification), indicating that remittance income is disproportionately channeled into health-related human-capital investment, consistent with the theoretical expectation that additional, relatively stable income from abroad relaxes liquidity constraints on health spending (Golder et al., 2023; Yang, 2021).

Table 6: WLS Regression Results — Income Coefficient and Model Fit by Expenditure Category

Expenditure Category	Non-Remitted: $\beta(\text{Income})$	Non-Remitted: R^2	Remitted: $\beta(\text{Income})$	Remitted: R^2
Education	0.186**	0.31	0.112***	0.43
Health	0.671***	0.80	0.253***	0.59
Electricity	0.0148**	0.69	0.0242***	0.82
Transportation	0.0032	0.52	0.0644***	0.51
Food	0.0228*	0.68	0.0527***	0.73

Source: Author's computation, WLS estimation, February 2024. ***, **, * denote significance at 1%, 5%, and 10% respectively. Standard errors omitted here for brevity; see full regression output in the underlying thesis.

Extending the model to include a squared log-income term (Model 2) to test for non-linearity produces a more nuanced picture, particularly for health and education spending. For remittance-receiving households, the quadratic specification confirms a positive but decelerating relationship between income and health spending (linear term = 4.18, squared term = -0.176 , both significant at 5%), consistent with diminishing marginal health expenditure as income rises—a pattern also reported by Marmot (1991) and, in the food-expenditure literature, by Green and Hellerstein (2013). For education, the quadratic term among remittance households is positive and statistically significant, suggesting that education spending accelerates modestly at higher income levels rather than declining, which is broadly consistent with Hsieh (2011). Among non-remittance households, by contrast, the squared income term for education is small and statistically insignificant, and the linear income coefficient turns negative in the quadratic specification,

echoing the negative income–education relationship reported by Atkinson and Stiglitz (1976) for non-recipient, lower-liquidity households.

Household size and the number of employed household members are, with limited exceptions, not statistically significant predictors of expenditure shares in either group. The main exception is transportation expenditure among remittance-receiving households, where household size carries a small but statistically significant positive coefficient, plausibly reflecting the additional transport needs of larger families (more frequent trips, larger vehicles). This finding is broadly consistent with Bergstrom and Goodman (2006), who report a similar—if generally weak—positive link between household size and transportation spending.

Income Differences between Remittance and Non-Remittance Households

An independent-samples t-test was used to test whether mean household income differs significantly between remittance-receiving ('foreign') and non-remittance ('local') households. Remittance-receiving households reported average monthly income of PKR 96,317.92 (SD = 18,697.25), compared with PKR 68,498.01 (SD = 17,613.53) among non-remittance households—a difference of PKR 7,819.91 (Table 7). Levene's test indicated equal variances ($F = 0.168$, $p = 0.682$), and the resulting t-test was statistically significant ($t = 3.404$, $df = 248$, $p = 0.001$), leading to rejection of the null hypothesis of no difference in income between the two groups. This confirms that remittance receipt is associated with a substantial and statistically significant income premium in District Washuk, consistent with the broader literature on the income-augmenting effect of remittances (Ratha, 2005; Adams & Cuenca, 2019).

Table 7: Independent-Samples T-Test: Household Income by Remittance Status

Group	N	Mean Income (PKR)	SD	t	df	p-value
Remittance-receiving	125	96,317.92	18,697.25	3.404	248	0.001
Non-remittance	125	68,498.01	17,613.53	—	—	—

Source: Author's computation from survey data, February 2024.

Conclusion

This study set out to examine the socioeconomic status of remittance-receiving households in District Washuk, Balochistan, and to estimate the impact of remittances and related household characteristics on household living-standard indicators. The demographic profile of the sample—predominantly married respondents aged 25–44, employed as drivers or labourers, with low formal educational attainment—reflects a labour-migrant population typical of remittance corridors originating from rural Balochistan. Despite low education levels and generally limited ownership of higher-value durable assets, ownership of essential household appliances (refrigerators, fans, stoves, motorcycles) is nearly universal, pointing to a basic but improving standard of living.

The central empirical finding is that remittances significantly raise household purchasing power and are associated with markedly higher spending on education, health, transportation, electricity, and food relative to non-remittance households. The regression analysis confirms that household income—including income derived from remittances—is a statistically significant and gen-

erally positive predictor of expenditure across all major living-standard categories, with the income elasticity of health and food expenditure notably higher among remittance recipients than non-recipients. This is consistent with the view that remittances relax household liquidity constraints and are disproportionately channeled into human-capital investment (health and, to a lesser extent, education) rather than being confined to routine consumption. The independent-samples t-test further confirms that the income gap between remittance-receiving and non-remittance households in Washuk is both economically large (a premium of nearly PKR 27,820, or roughly 40%) and statistically significant.

These findings align closely with Ahmed et al. (2020), who documented the role of remittances in expanding household purchasing power and housing demand in Pakistan, and with the broader literature linking remittances to improved welfare, reduced poverty, and greater human-capital investment (Kapri & Jha, 2020; Mishra et al., 2022; Jayaweera & Verma, 2023). At the same time, the pattern of diminishing marginal expenditure on health and electricity at higher income levels—identified through the quadratic income specification—echoes international evidence (Marmot, 1991; Berkhout & Rietveld, 2016) that the share of income devoted to these categories tends to decline once basic needs are met, even as absolute spending continues to rise.

Overall, this study provides the first empirical, household-level evidence on the welfare effects of remittances in District Washuk, filling a gap in a literature that has, until now, been dominated by national-level or cross-country analyses. The results support the conclusion that remittances are a significant and economically meaningful source of household welfare improvement in this remittance-dependent region, while also highlighting that much of this income continues to be absorbed into consumption rather than productive, income-generating investment—an issue taken up in the recommendations below.

Policy Recommendations

Based on these findings, several recommendations follow for policymakers, development agencies, and financial institutions operating in District Washuk and comparable remittance-dependent regions:

- Redirect remittance flows toward productive sectors. A large share of remittance income in Washuk is currently absorbed by capital-intensive, largely unproductive uses such as housing, vehicles, and household appliances. Channeling even a modest share of these funds into labour-intensive, growth-enhancing sectors could generate employment and support longer-term community development.
- Develop targeted financial-literacy and investment programs. Migrant workers and their families would benefit from structured financial-literacy training, investment guidance, and counselling on viable local income-generating opportunities, helping convert remittance income into durable productive assets rather than one-off consumption.
- Reduce remittance transaction costs and expand formal channels. Lowering the cost of sending and receiving remittances—and expanding access to formal transfer channels—would increase the net welfare benefit reaching households, consistent with evidence that high transaction costs erode the welfare gains from remittances (Nanziri & Mwale, 2023).
- Invest in skills development for migrant-sending households. Given that most respondents work as drivers or labourers, vocational training, apprenticeship, and entrepreneurship-

support programs could raise the earning potential of both migrants and household members remaining in Washuk, strengthening the household's income base independent of remittances.

- Introduce targeted social-protection measures for non-remittance households. Given the statistically significant income gap identified between remittance and non-remittance households, targeted subsidies and income-support programs could help narrow disparities and support inclusive local development.
- Encourage diversified use of remittance income. Households should be encouraged, through savings products, microfinance, and agricultural-investment schemes, to allocate a greater share of remittance income to income-generating activities, reducing long-run dependency on continued remittance inflows.
- Strengthen institutional and data infrastructure. Sustained, district-level monitoring of remittance flows and household welfare outcomes in Balochistan would support more evidence-based policy design and allow the findings of this study to be tracked and validated over time.

References

1. Adams, R. H., & Cuecuecha, A. (2019). The economic impact of international remittances on poverty and household consumption and investment in Indonesia. Policy Research Working Paper Series 5433, The World Bank.
2. Adejumo, A. O., & Ikhiede, S. I. (2019). The effects of remittance inflows on exchange rates in Nigeria. *The Journal of Developing Areas*, 53(1), 1–15.
3. Ahmad, N., et al. (2018). Urbanisation and the housing gap in Pakistan's major cities.
4. Ahmed, A., Iqbal, N., & Mustafa, G. (2020). Measuring the impact of remittances on housing demand: evidence from large cities in Pakistan (No. 2020: 10). Pakistan Institute of Development Economics.
5. Ahmed, V., Sugiyarto, G., & Jha, S. (2020). Remittances and household welfare: A case study of Pakistan. *Asian Development Bank Economics Working Paper Series*, (194).
6. Al-Nsour, I. A. (2020). Impact of workers' remittances on poverty index: New evidence from Jordan. *European Journal of Business and Management Research*, 5(4).
7. Ali, S., et al. (2019). Remittances, poverty and living standards in Sub-Saharan Africa.
8. Aslam, A. L., & Sivarajasingham, S. (2023). Testing cointegration between workers' remittances and human capital formation in Sri Lanka. *Journal of Economic and Administrative Sciences*, 39(3), 687–708.
9. Atkinson, A. B., & Stiglitz, J. E. (1976). The structure of income taxation and the structure of consumption. *Journal of Public Economics*, 6(2), 61–90.
10. Azam, M. (2015). The role of migrant workers' remittances in fostering economic growth: The four Asian developing countries' experiences. *International Journal of Social Economics*, 42(8), 690–705.
11. Azizi, S. (2018). The impacts of workers' remittances on human capital and labor supply in developing countries. *Economic Modelling*, 75, 377–396.
12. Azizi, S. (2021). The impacts of workers' remittances on poverty and inequality in developing countries. *Empirical Economics*, 60(2), 969–991.
13. Banister, D., & Button, K. (2004). Transportation and income: An analysis of household expenditure patterns. *Transport Policy*, 11(1), 15–22.

14. Bergstrom, T. C., & Goodman, R. P. (2006). The demand for transportation and the role of household income. *Transportation Research Part A: Policy and Practice*, 40(6), 451–469.
15. Berkhout, P., & Rietveld, P. (2016). Electricity expenditure and income: Empirical evidence from European households. *Energy Economics*, 56, 249–261.
16. Bibi, C., & Ali, A. (2022). Do remittances impact human development in developing countries? A panel analysis of selected countries. MPRA Paper No. 114864.
17. Chowdhury, E. K., Dhar, B. K., & Gazi, M. A. I. (2023). Impact of remittance on economic progress: Evidence from low-income Asian frontier countries. *Journal of the Knowledge Economy*, 14(1), 382–407.
18. Dea, P. K., & Rathab, D. (2012). Impact of remittances on household income, asset and human capital: Evidence from Sri Lanka. *Migration and Development*, 1(1), 163–179.
19. Deaton, A., & Muellbauer, J. (1980). An almost ideal demand system. *The American Economic Review*, 70(3), 312–326.
20. Dil, & Ali. (2024). Remittances and household wellbeing in Frontier Region Dera Ismail Khan.
21. Faridi, M. Z., & Mehmood, K. A. (2014). Workers' remittances and poverty in Pakistan. *Pakistan Journal of Social Sciences*, 34(1), 13–27.
22. Filippini, M., & Hunt, L. C. (2012). Household energy expenditures and income: Evidence from Italy. *Energy Economics*, 34(6), 1795–1804.
23. Golder, U., Rumaly, N., Hossain, M. K., & Nigar, M. (2023). Financial progress, inward remittance, and economic growth in Bangladesh: Is the nexus asymmetric? *Heliyon*, 9(3), e14454.
24. González, M. A., & Martínez, S. (2020). Income and health expenditure in households: Evidence from developing countries. *International Journal of Health Economics and Management*, 20(2), 213–232.
25. Green, R., & Hellerstein, D. (2013). The relationship between income and food expenditure: The effect of price and income elasticities. *Journal of Agricultural and Resource Economics*, 38(2), 285–302.
26. Hassan, & Khan. (2025). Remittances and household spending in District Mohmand, Khyber Pakhtunkhwa.
27. Hsieh, C. (2011). Income inequality and education expenditure: A study of US households. *Journal of Economic Inequality*, 9(1), 83–106.
28. Hua, T. X., Kessels, R., & Erreygers, G. (2022). The impact of remittances on saving behaviour and expenditure patterns in Vietnam. *Economies*, 10(9), 1–19.
29. Javed, M., Awan, M. S., & Waqas, M. (2017). International migration, remittances inflow and household welfare: An intra-village comparison from Pakistan. *Social Indicators Research*, 130(2), 779–797.
30. Javid, M., Arif, U., & Qayyum, A. (2021). Impact of remittances on economic growth and poverty. *Academic Research International*, 2(1), 433.
31. Jayaweera, R., & Verma, R. (2023). Are remittances a solution to housing issues? A case study from Sri Lanka. *Social Sciences and Humanities Open*, 7(1), 100392.
32. Jayaweera, R., et al. (2021). Worker remittances and financial-sector development in South Asia.
33. Joarder, M. A. M., et al. (2017). Remittances and household investment behaviour.

34. Kapri, K., & Jha, R. (2020). Remittances and living standards: Panel evidence from Nepal.
35. Kayani, F. (2021). Foreign remittances and poverty reduction in Kyrgyzstan.
36. Khan, et al. (2018). Remittances and socioeconomic development in District Dir, NWFP.
37. Khan, et al. (2019). International migration and household welfare in Pakistan.
38. Kothari, C. R. (2007). Research methodology: Methods and techniques. New Age International.
39. Marmot, M. (1991). Income and health expenditure patterns.
40. Mas'udah. (2020). Remittances to Asia-Pacific: Trends and patterns.
41. Mishra, K., et al. (2022). Remittances and household expenditure patterns: Evidence from the Nepal Living Standards Survey.
42. Mustafa, G. (2018). Foreign exchange constraints and remittances in Pakistan.
43. Nanziri, E. L., & Mwale, A. (2023). Remittances and the crowding-in of household earnings in Southern Africa.
44. Quashie, A. (2019). Remittances and housing quality in Caribbean cities.
45. Ratha, D. (2005). Workers' remittances: An important and stable source of external development finance.
46. Rukhsana. (2021). Household expenditure modelling using Engel-curve approaches.
47. Saadi, S. (2020). Remittances, gendered human-capital investment, and health outcomes in developing countries.
48. Saleem, et al. (2022). International migration trends during the COVID-19 pandemic.
49. Shair, W., et al. (2024). Remittances and poverty: Logistic-regression evidence from HIES/PSLM data.
50. Sjoquist, D. L. (2007). Income and health expenditure: A cross-national analysis.
51. Ullah, K. (2025). Remittances, consumption, and poverty in Pakistan: National-level analysis of HIES 2018–19 and PSLM 2019–20.
52. World Bank. (2022). Migration and Development Brief: Remittance flows to developing countries.
53. Yang, D. (2021). Remittances and poverty alleviation in developing countries.