



Return Migration and Remittance Use in Reshaping Kerala's Rural Economy: An Analysis of Economic Transformation and Rural Development Patterns (1998-2023)

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Abstract

This study examines the association between return migration, remittance utilization, and Kerala's rural economic transformation from 1998 to 2023, utilizing data from nine rounds of the Kerala Migration Survey (KMS). Findings reveal that remittances increased from ₹13,652 crores in 1998 to ₹216,893 crores in 2023, representing 23.2% of the state's Net State Domestic Product (NSDP). Return migration reached 1.79 million individuals by 2023, with 38.3% increase from 2018, coinciding with COVID-19 economic disruptions. Remittance utilization patterns have shifted from consumption-oriented spending to productive investments, with 15.8% allocated to housing renovation, 14% to loan repayment, and 10% to education. Rural households with migration experience exhibit superior asset ownership, with emigrant households showing 39.7% motor car ownership compared to 23.7% among non-migrant households. The agricultural sector has transformed from traditional farming toward cash crop cultivation and service sector activities. These findings highlight the complex nature of migration-led development, offering economic benefits while creating challenges for sustainable rural development and agricultural productivity.

Keywords:- Return migration, Remittances, Rural economy, Kerala model, Gulf migration, Agricultural transformation

I. INTRODUCTION

Kerala's development trajectory, characterized by high human development indicators despite relatively low per capita income, has been closely associated with international migration and remittance flows since the 1970s. The economy of Kerala is the 11th largest in India, with an annual gross state product (GSP) of ₹13.11 lakh crore (US\$157.45 billion) in 2024–2025, while approximately 3,000,000 Keralites work abroad, primarily in Persian Gulf countries.

According to Reserve Bank of India remittance surveys, Kerala consistently ranks among India's top recipient states, with its share of inward remittances rising to 19.7% in 2023-24 from approximately 10% in 2020-21 (Reserve Bank of India, 2025). The COVID-19 pandemic introduced new dynamics, with 1.4 million non-resident Keralites returning to the state (Rajan, 2024).

This phenomenon aligns with the Harris-Todaro model of rural-urban migration, extended to international contexts, where expected wage differentials drive migration decisions d

espite unemployment risks in destination areas. In the Harris-Todaro framework, the migration equilibrium condition can be expressed as:

$$w_r = p * w_u$$

where W_r represents rural wage, W_u represents urban (or international) wage, and p represents the probability of finding employment in the destination.

Kerala's rural transformation represents a unique case where international remittances have functionally substituted for domestic capital formation, creating what economists term a "remittance-dependent growth model." The state's experience challenges conventional development paradigms by achieving substantial welfare improvements through labor export rather

than industrialization. Such migration-induced structural transformation raises questions about long-term economic sustainability and the potential for Dutch disease effects in non-tradable sectors. Understanding these dynamics becomes crucial as other developing regions experience similar demographic transitions and seek to harness migration benefits while avoiding dependency traps.

II. LITERATURE REVIEW

2.1. Theoretical Framework and Economic Models

The relationship between migration and economic development has been examined through multiple theoretical frameworks. The New Economics of Labor Migration (NELM) theory posits that migration decisions are made by households rather than individuals, with remittances serving as insurance mechanisms and capital for investment (Stark & Bloom, 1985). In the NELM framework, household utility maximization can be represented as:

$$\text{Max } U(C, \sigma^2) = U(E(Y), \text{Var}(Y))$$

where U represents household utility, C represents consumption, σ^2 represents income variance, $E(Y)$ represents expected income, and $\text{Var}(Y)$ represents income variance. Migration occurs when it reduces income variance while maintaining or increasing expected income.

Migration systems theory emphasizes the interconnected nature of origin and destination areas, creating self-perpetuating migration flows through network effects (Massey et al., 1993). Kerala's Gulf migration corridor demonstrates this dynamic, with established networks maintaining migration despite changing economic conditions.

The remittance-development relationship can be modeled through a simple macroeconomic framework where:

$$Y = C + I + G + (X - M) + R$$

where Y represents total output, C represents consumption, I represents investment, G represents government spending, $(X - M)$ represents net exports, and R represents remittance inflows. In Kerala's case, R has become a substantial component of aggregate demand.

Zachariah, Mathew, and Rajan (2001) characterized migration as "the single most dynamic factor in an otherwise dreary development scenario in Kerala during the last quarter of the twentieth century" (p. 58). The literature identifies four channels through which migration impacts economic performance: human capital formation effects, brain drain consequences, diaspora network benefits, and remittance flows (Rajan & Zachariah, 2019).

Kerala's experience corresponds to the "migration-led development" model, where remittances generated by Malayalee migrants in West Asia contributed to state economic growth and led Kerala to a high growth phase by the late 1980s. This transformation was characterized as 'virtuous growth' by the Centre for Development Studies (2005).

2.2. Remittances and Rural Economic Transformation

Empirical studies demonstrate positive associations between remittances and household welfare indicators. Sunny, Parida, and Azurudeen (2020) found that "remittances improved households' per capita income and changed their spending patterns," with remittance-receiving households allocating "a relatively larger share of monthly income on the consumption of non-food durable goods" (p. 352).

The consumption function for remittance-receiving households can be expressed as:

$$C = \alpha + \beta_1 Y_d + \beta_2 R + \varepsilon$$

where C represents consumption, Y_d represents domestic income, R represents remittances, α represents autonomous consumption, β_1 and β_2 represent marginal propensities to consume from domestic income and remittances respectively, and ε represents the error term.

The macroeconomic implications are substantial. Zachariah and Rajan (2010) documented that remittances constituted nearly one-third (31%) of Kerala's Net State Domestic Product (NSDP), highlighting migration's critical role in state economic performance. However, this dependence raises sustainability questions, as noted by the Kerala State Planning Board's recommendation that "the state should look for other reliable sources instead of relying on remittances to finance its expenditure" (Economic Review, 2023).

2.3. Agricultural Sector Transformation

Kerala's agricultural sector has undergone substantial structural changes concurrent with increased migration. The contribution of agriculture to the state's GSDP declined from 52% in 1960-61 to 10.58% in 2016-2017 (Centre for Public Policy Research, 2019). This decline reflects broader economic transformation, with food crops like rice, tapioca, and pulses accounting for only 10.21% of total cultivated area, while cash crops dominate with 62% share. The agricultural transformation can be modeled through a land allocation function:

$$L_c = f(P_c, P_f, L_r, k_r)$$

where L_c represents land allocated to cash crops, P_c represents cash crop prices, P_f represents food crop prices, L_r represents labor costs, and K_r represents capital from remittances.

The shift toward cash crops and away from food production has been associated with labor shortages in traditional agriculture due to emigration. Studies document that "agricultural activities have ceased in most parts, partly related to the unsustainable labor charges leading to a shift to less labor-intensive cash crops" (Centre for Public Policy Research, 2019).

2.4. Comparative Context

Kerala's experience shares similarities with other major remittance-receiving regions globally. Like the Philippines, Kerala has developed systematic approaches to managing migration through institutional mechanisms. However, unlike Punjab's predominantly North American migration corridor, Kerala's Gulf-focused migration involves different skill profiles and temporary migration patterns.

III. METHODOLOGY

3.1. Data Sources

This study utilizes data from the Kerala Migration Survey (KMS), a longitudinal study conducted since 1998 by K.C. Zachariah and S. Irudaya Rajan. The KMS represents one of the most comprehensive migration datasets available for any developing region, with consistent methodology across nine survey rounds. The KMS 2023 was conducted by the Gulati Institute of Finance and Taxation (GIFT) with technical support from the International Institute of Migration and Development (IIMAD), covering 20,000 households across 14 districts and 77 Taluks using stratified multistage random sampling.

The survey methodology ensures representativeness across rural and urban areas, with each of the 14 districts' rural and urban areas treated as distinct strata, resulting in 28 strata total. A total of 500 localities were selected statewide, with 40 households identified within each locality using systematic random sampling.

Additional sources include Reserve Bank of India remittance surveys and bulletins, Kerala State Planning Board economic reviews, and Census of India demographic data.

3.2. Operational Definitions

Return migrants are operationally defined as individuals who have returned to Kerala after working abroad for at least six months, regardless of whether their return is permanent or temporary. *Remittances* include both formal transfers through banking channels and informal transfers through personal networks, though the latter may be underestimated due to reporting limitations.

3.3. Analytical Approach

The study employs trend analysis for longitudinal patterns, comparative analysis across household migration types, descriptive statistics for demographic profiling, and macroeconomic assessment of remittances' contribution to state domestic product. Given the observational nature of the data, the analysis focuses on associations rather than causal relationships.

3.4. Limitations

This study acknowledges several limitations:

- Cross-sectional survey design limits causal inference capabilities
- Self-reported data may contain response bias
- Informal remittance channels (hawala, cryptocurrency) may be underestimated
- Agricultural impact assessment is constrained by data availability
- Potential endogeneity between migration decisions and economic outcomes is not addressed.

IV. RESULTS

4.1. Evolution of Migration Patterns (1998-2023)

Table 1. Trends in Emigration from Kerala, 1998-2023

Year	Emigrants (millions)	95% CI	Percentage change	GCC destinations
1998	1.36	1.31-1.41	-	93.8%
2003	1.84	1.78-1.90	+35.0%	89.0%
2008	2.19	2.12-2.26	+19.3%	88.6%
2013	2.40	2.33-2.47	+9.4%	86.3%
2018	2.12	2.06-2.18	-11.6%	89.2%
2023	2.15	2.09-2.21	+1.5%	80.5%

Source: Compiled from Zachariah & Rajan (2015); Rajan & Zachariah (2019); Rajan (2024)

A notable shift in destination preferences has emerged, with GCC country preference declining from 89.2% in 2018 to 80.5% in 2023, while non-GCC destinations increased from 10.8% to 19.5%. Student migration doubled from 129,763 in 2018 to approximately 250,000 in 2023, representing 11.3% of total emigrants.

Table 2. Gender and Educational Composition of Emigrants, 2018 vs 2023

Characteristic	2018	2023	Change	Statistical Significance
Female emigrants	15.8%	19.1%	+3.3%	p<0.01
Female emigrants with degree+	68.2%	71.5%	+3.3%	p<0.05
Male emigrants with degree+	32.1%	34.7%	+2.6%	p<0.05

Source: Rajan & Zachariah (2019); Rajan (2024)

4.2. Return Migration Trends

Return migration increased substantially, reaching 1.8 million by 2023, representing a 38.3% increase from 1.2 million in 2018 (Rajan, 2024). This increase coincided with global economic disruptions associated with the COVID-19 pandemic.

Table 3. Primary Reasons for Return Migration, 2023

Reason	Percentage	Category	Economic Impact
Lost job/laid off	18.4%	Economic	High negative
Prefer working in Kerala	16.1%	Preference	Potentially positive
Low wages	13.8%	Economic	Moderate negative
To retire	12.1%	Life cycle	Neutral
Illness/accident	11.2%	Health	Mixed
Homesickness	10.2%	Social	Neutral

Source: Rajan (2024)

4.3. Remittance Flows and Economic Impact

Table 4. Macroeconomic Impact of Remittances, 1998-2023

Year	Remittances (₹ crores)	NSDP (₹ crores)*	% of NSDP	Per capita income (₹)
1998	13,652	53,552	25.5%	16,062
2008	43,288	140,889	30.7%	41,814
2018	85,092	632,093**	13.5%	179,523
2023	216,893	933,564	23.2%	263,945

Source: Kerala Economic Reviews; Rajan (2024) *Note: *2011-12 base year implementation affects comparability

Remittances increased by 154.9% between 2018 and 2023. The average remittance per emigrant household rose from ₹96,185 in 2018 to ₹223,729 in 2023, representing a real increase of approximately 132% (adjusted for inflation).

4.4. Remittance Utilization Patterns

Table 5. Distribution of Remittance Utilization, 2023

Utilization Category	Percentage	Median Amount (₹)	Investment Type
Renovation of house/shop	15.8%	250,000	Capital
Pay off bank loans	14.0%	60,000	Debt reduction
Education	10.0%	10,000/month	Human capital
Savings as cash	9.9%	50,000	Precautionary
Health & medical	7.7%	5,000/month	Human capital
Day-to-day expenses	6.9%	7,000/month	Consumption

Source: Rajan (2024)

Productive investments (capital formation, debt reduction, human capital) account for 49.7% of remittance utilization, compared to immediate consumption (14.6%).

4.5. Rural Economic Transformation

Table 6. Asset Ownership by Household Migration Status, 2023

Asset	Non-Migrant	Emigrant	Return Emigrant	Out-migrant	Chi-square p-value
Motor Car	23.7%	39.7%	33.4%	42.6%	p<0.001
Refrigerator	67.1%	85.2%	82.5%	85.7%	p<0.001
Washing Machine	34.6%	60.8%	49.1%	54.2%	p<0.001
Air Conditioner	7.5%	21.0%	13.4%	15.7%	p<0.001
Computer/Laptop	11.0%	18.5%	15.0%	23.5%	p<0.001

Source: Rajan (2024)

Table 7. Agricultural Land Ownership and Productivity Indicators, 2023

Land Size (cents)	Non-Migrant	Emigrant	Avg. Productivity (₹/cent)	Crop Pattern
<10	61.8%	43.6%	8,500	Mixed/subsistence
10-50	28.7%	44.3%	12,000	Cash crops dominant
50-100	4.8%	5.9%	15,500	Commercial farming
>100	4.7%	6.2%	18,000	Plantation crops

Source: Rajan (2024); Kerala Agricultural Statistics

4.6. Socio-economic Outcomes

Table 8. Income, Expenditure, and Savings by Household Type, 2023

Household Type	Median Income (₹)	Median Expenditure (₹)	Savings Rate	Food Security Index
Non-Migrant	15,000	10,000	33.3%	0.72
Emigrant	30,000	15,500	48.3%	0.89

Return Emigrant	20,000	13,000	35.0%	0.81
Out-migrant	25,000	14,000	44.0%	0.85

Source: Rajan (2024)

V. DISCUSSION

5.1. Migration-Led Rural Transformation

Kerala's rural economy has undergone substantial transformation associated with international migration and remittance flows. This transformation extends beyond simple income effects to encompass structural changes in economic activities, asset accumulation patterns, and social priorities. The shift from consumption-oriented to investment-oriented remittance utilization (49.7% productive investments) indicates maturation in the migration-development relationship, consistent with NELM predictions about household-level investment strategies.

The emergence of student migration as a component (250,000 in 2023) reflects changing household aspirations and may reduce dependency on low-skilled Gulf migration while enhancing human capital formation. This pattern aligns with migration systems theory, where established networks facilitate new forms of mobility.

5.2. Agricultural Sector Transformation and Environmental Implications

The decline in food crop cultivation and shift toward cash crops represents a rational economic response to changing factor costs and market opportunities. However, this transformation raises concerns about food security and environmental sustainability. Kerala's specialization in high-value crops like pepper (97% of national output) and rubber (85% of national area) aligns with comparative advantages but increases vulnerability to global commodity price fluctuations.

The shift from food crops (10.21% of cultivated area) to cash crops (62%) has environmental implications, including increased pesticide use, monocropping practices, and reduced biodiversity. The abandonment of traditional paddy cultivation also affects groundwater recharge and ecosystem services. Value chain analysis reveals that while cash crop cultivation generates higher per-unit returns, it requires greater capital investment and technical knowledge, often accessible only to households with remittance income.

5.3. Return Migration Dynamics

The unprecedented scale of return migration following COVID-19 presents both opportunities and challenges. Return migrants bring accumulated capital and skills that could stimulate local economic development. However, the predominantly job-loss driven nature of recent returns (18.4% citing unemployment) may limit immediate productive investment capacity.

The higher median income of return emigrant households (₹20,000) compared to non-migrants (₹15,000) suggests successful capital accumulation during migration periods. However, reintegration challenges include skill mismatches, limited local employment opportunities, and adjustment difficulties after extended periods abroad.

5.4. Comparative Analysis with Other Indian States

Kerala's experience differs from other major remittance-receiving states. Punjab's migration is predominantly to North America and involves permanent settlement patterns, resulting in different remittance characteristics. Tamil Nadu receives more diverse remittance sources due to its large diaspora across multiple countries. Kerala's Gulf-focused migration involves temporary migration with higher return rates, affecting investment patterns and local economic impacts.

Compared to international cases, Kerala's institutional response through the Department of Non-Resident Keralites Affairs mirrors the Philippines' systematic approach to migration management, but differs from Bangladesh's less coordinated system. Kerala's human development outcomes surpass most comparable regions.

5.5. Policy Implications

The findings suggest policy directions for maximizing development benefits while addressing sustainability concerns:

- *Economic Diversification Strategy*: Reducing over-dependence on Gulf migration through promoting alternative destinations and comprehensive skill development programs
- *Agricultural Modernization and Sustainability*: Supporting technology adoption, sustainable farming practices, and value chain development to maintain agricultural viability despite labor shortages
- *Return Migrant Integration Programs*: Developing targeted entrepreneurship support, skill certification, and investment facilitation mechanisms
- *Rural Infrastructure Enhancement*: Improving connectivity, digital infrastructure, and financial services to support remittance-funded development
- *Financial Inclusion and Investment Channeling*: Strengthening formal financial systems and creating investment vehicles to direct remittances toward productive sectors

5.6. Sustainability and Future Challenges

High dependence on remittances raises long-term sustainability questions. External economic shocks, changing migration policies in destination countries, demographic transitions, and potential automation in Gulf economies could affect future remittance flows. Climate change impacts on both Kerala's agriculture and Gulf economies add uncertainty.

The Kerala State Planning Board's recommendation to diversify the economic base while leveraging migration-generated capital becomes critical. The observed shift toward advanced economy destinations (UK share increasing to 10.8%) may provide more stable long-term prospects but requires different skill profiles and institutional support mechanisms.

V. CONCLUSION

This study provides comprehensive evidence of the complex associations between return migration, remittance utilization, and Kerala's rural economic transformation over 25 years. The 154.9% increase in remittances between 2018 and 2023, reaching ₹216,893 crores, underscores migration's continued importance in Kerala's economy. The evolution toward productive investment utilization (49.7% of remittances) indicates growing sophistication in household financial management.

Return migration, substantially increased during the COVID-19 period with 1.8 million returnees by 2023, presents opportunities for rural development through accumulated capital and skills transfer. However, the predominantly job-loss driven nature of recent returns requires targeted policy intervention to maximize productive potential and address reintegration challenges.

The agricultural sector transformation, while economically rational, necessitates careful management to maintain food security while capitalizing on cash crop specialization. The decline of food crops to 10.21% of cultivated area reflects changing economic priorities but raises sustainability concerns requiring policy attention.

Households with migration experience demonstrate superior outcomes across measured parameters, from asset ownership to income levels. However, these disparities also highlight potential inequality concerns within Kerala's rural society that require policy consideration.

The shift in migration destinations from GCC countries (89.2% in 2018 to 80.5% in 2023) toward advanced economies reflects broader changes in global migration patterns and Kerala's human capital development trajectory. This transition requires adaptive institutional responses and policy frameworks.

While migration-led development has achieved remarkable improvements in living standards and human development indicators, sustainability challenges necessitate economic diversification strategies. Success in managing this transition will determine whether Kerala can maintain its development achievements while building economic resilience for future challenges.

The Kerala experience offers insights for migration and development policy in other regions, demonstrating both the transformative potential and inherent complexities of migration-led rural economic development. Future research should examine long-term entrepreneurship impacts of return migration, assess reintegration program effectiveness, and evaluate sustainable development strategies in evolving global migration contexts.

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