

Temporary rural economies at a large religious gathering: crowd estimation and short-term market activity in Bajaur, Pakistan

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Abstract

Large religious gatherings are commonly discussed in terms of faith, social participation and crowd management, while their short-term contribution to rural economic activity receives less systematic attention. This study examines the Tablighi Ijtema held in Khar, District Bajaur, Khyber Pakhtunkhwa, Pakistan, on 28–29 September 2026. According to local accounts, the gathering took place after approximately three decades and concluded peacefully in a district where insecurity has affected everyday life and economic confidence. Field-based crowd estimation, records from 20 vendors operating in a temporary marketplace, and a separate participant-expenditure record were used to examine attendance and economic activity concentrated over a short period. Pacing-based measurements gave an approximate rectangular footprint of 790,920 square feet (73,479 m²), based on an assumed average step length of 2.6 feet. An adapted Jacobs-style area-density assessment, a row-spacing calculation and field observations supported a working peak-attendance estimate of 75,000–80,000 people. This is an estimate rather than a verified headcount or a full grid-based application of Jacobs' method. The temporary marketplace was reported to contain more than 100 stalls or small shops. The 20-vendor dataset recorded aggregate sales of PKR 765,500 and reported or estimated profit of PKR 157,345. Separately, a group-based expenditure benchmark of PKR 1,041 per participant for two meals and shared logistics was applied to an assumed 55,000–65,000 participants covered by these arrangements. This produced an illustrative expenditure scenario of PKR 57.255–67.665 million, equivalent to approximately PKR 5.73–6.77 crore. These indicators have different scopes and are not combined into a single economic-impact estimate. The study documents temporary market activity around a large rural religious gathering and highlights practical implications for local livelihoods, small-enterprise participation, event management and future rural-development research.

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Introduction

Rural development is shaped not only by agriculture, infrastructure and formal investment, but also by temporary concentrations of people that generate demand for goods, food,

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transport and small-scale services. Religious gatherings are important examples of such activity. Alongside their spiritual and social significance, they create short-lived markets in which local traders and service providers respond to a sudden increase in demand. This sudden burst of trade is further supported by the social impact of these events. As McCleary (2008) points out, religious gatherings help people build trust, make friends, and create strong community networks. While attending these meetings takes time, it teaches useful habits like honesty and cooperation. Ultimately, these shared values make it easier for local traders to do business safely during these rapid market spikes, helping the rural economy grow.

Research on pilgrimage economies has shown that visitor expenditure can support retail, food services, temporary employment and other local economic activities. However, the extent of these benefits depends on how spending is connected with the host economy and how much income remains within the local area (Saayman et al., 2014; Lafuente-Sánchez et al., 2017). Recent research has also highlighted the role of informal vendors and micro-enterprises in religious-event economies (Shinde, 2026). On a practical level, Nair (2022) demonstrates that the sudden influx of visitors at religious events creates crucial, short-term economic opportunities that directly support local livelihoods, particularly benefiting micro-vendors and informal service providers.

Empirical findings by Judah and Bui (2026) show that reviving major public gatherings boosts the local area, strengthens the rural economy, and helps local communities bounce back from economic hardships, even when operating within sensitive security settings. The Tablighi Ijtema held in Khar on 28–29 September 2026 perfectly illustrates this dynamic. Taking place after a gap of approximately 30 years and concluding peacefully, this massive congregation brought a large number of people together and generated highly concentrated demand over a short period. This perspective is particularly relevant to District Bajaur, Khyber Pakhtunkhwa, where prolonged insecurity has affected everyday life and economic confidence. The event therefore provides a unique opportunity to examine temporary rural-market activity operating within a security-sensitive setting. However, this study does not test whether the gathering changed long-term investor confidence or caused wider economic improvements. Its focus is on documenting the approximate scale of attendance and selected economic transactions associated with the event.

The economic significance of such gatherings should be assessed through observed activity rather than attendance alone. Crowd estimation provides an indication of the scale of participation and associated demand, while vendor records and participant expenditure offer separate views of economic transactions surrounding the event. Jacobs' approach is commonly associated with estimating crowd size from the area occupied and the number of people present in representative sections (Jacobs, 1967; Watson and Yip, 2011). In this study, the area-density principle was used in an adapted form because systematic person counts from representative grid sections were not recorded. The distinction is important because the analysis is Jacobs-inspired but does not constitute a full grid-based application of the original method. Studies of large religious gatherings also demonstrate the importance of considering crowd size alongside operational requirements, including public health, sanitation, transport and emergency preparedness (World Health Organization, 2019).

The specific value of this study lies in its focus on an unmapped, post-conflict border zone. While formal frameworks focus on institutional agricultural investments, this inquiry shows how informal market structures can provide immediate livelihood protection. Documenting how localized trade operates safely during a brief event gives researchers a clear view of community resilience. It shows how small rural economies can thrive without permanent financial infrastructure.

Novelty Statement

This study provides the first empirical documentation of a temporary market economy generated by a large religious gathering in a security-sensitive, post-conflict border zone (District Bajaur, Pakistan). It captures real-time vendor transactions in an informal marketplace that lasted only 24 hours, data that formal metrics usually miss. Additionally, it shows how a low-cost, pacing-based crowd estimation method can be practically applied to measure sudden economic demand in data-scarce rural regions.

Objectives

The objectives of this study are:

1. To estimate the approximate peak attendance at the Bajaur Ijtema
2. To document sales and reported or estimated profit among 20 sampled vendors
3. To estimate participant expenditure on meals and shared logistics under a clearly defined set of assumptions
4. To discuss the implications of temporary market activity for rural livelihoods and the planning of future gatherings

The study distinguishes field observations, recorded values and scenario-based estimates to avoid overstating the economic significance of the findings.

Materials and Methods

Study area and event

The study was conducted at the Tablighi Ijtema held in Khar, District Bajaur, Khyber Pakhtunkhwa, Pakistan, on 28–29 September 2026. Field observations covered the congregation area and temporary marketplace during the gathering. The event was treated as a short-duration case study of crowd concentration and related economic activity. The analysis focused on three components: crowd estimation, vendor transactions and participant expenditure on meals and shared logistics.

Crowd-area measurement and estimation

The approximate length and width of the congregation area were measured by pacing. The field record comprised 450 steps in length and 260 steps in width. As individual step length was not instrument-calibrated, an assumed average of 2.6 feet per step was used.

The resulting dimensions were calculated as a length of 1,170 feet (450 steps $\times$ 2.6 ft) and a width of 676 feet (260 steps $\times$ 2.6 ft). This produced an approximate total rectangular footprint of 790,920 square feet (73,479 m²). Peak attendance was evaluated using an adapted Jacobs-style area-density calculation alongside row-spacing observations, yielding a working peak

crowd estimate of 75,000 to 80,000 people present during the peak hours of the event. Because this total footprint included open walkways, storage spaces, and organizational staging areas alongside tightly seated rows, the average density spreads out to approximately 9.8 square feet per individual across the entire measured perimeter.

Data Analysis and Descriptive Statistics

Quantitative field records were analyzed using descriptive statistics to summarize economic activity without assuming wider population distributions. For the marketplace data, measures of central tendency, specifically arithmetic means, minimums, maximums, and sum aggregates were computed to determine average financial turnover per business unit. Distribution percentages were used to evaluate relative profitability ratios across the sample. For participant expenditure, upper, middle, and lower bounds were calculated using scenario-based models to establish boundary estimates for the event's immediate economic footprint.

Results and Discussion

Crowd Estimation and Footprint Models

The pacing-derived spatial blueprint generated alternative analytical thresholds for crowd density based on varying space allowances per attendee. Applying alternative grid configurations reveals the mathematical boundaries of the crowd size across the overall perimeter.

Table 1: Crowd estimation models under alternative density assumptions.

Crowd Characterization	Assumed Space Allowance (sq. ft. / person)	Implied Crowd Capacity	Methodological Relevance to Field Context
Tightly Seated Rows	3.5	225,977	Theoretical limit for packed prayer rows only
Solid Moving Crowd	6.0	131,820	Standard macro-event density threshold
Loose/Logistical Mix	9.8	80,706	Working baseline (Includes walkways and staging)
Very Sparse Spacing	15.0	52,728	Lower bound calculation baseline

The spatial modeling results displayed in Table 1 reveal how alternative density assumptions change our understanding of mass-gathering capacities. If the entire measured area of 790,920 square feet were strictly configured as packed prayer rows with an individual allowance of 3.5 square feet, the perimeter would possess a maximum capacity of over 225,000 people. However, field layout realities diverge significantly from simple maximum seating maps. The working field baseline settled upon an average distribution footprint of 9.8 square feet per individual. This wider space allowance accounts for major logistical clearings, including

thoroughfares, administrative pulpits, storage nodes, and open safety clearings essential to support a peaceful gathering lasting multiple days. This adjusted approach aligns perfectly with our realistic observational threshold of 75,000 to 80,000 active participants.

Vendor sales and profitability

The temporary marketplace set up during the 24-hour event featured more than 100 stalls and informal shops. Descriptive data collected from a sample of 20 active vendors showed a high volume of quick trade. Together, these 20 micro-enterprises made total sales of PKR 765,500, yielding a combined reported profit of PKR 157,345.

Table 2: Descriptive statistics of the 20 sampled marketplace vendors (All values in PKR).

Descriptive Metric	Gross Sales Volume	Self-Reported Profit	Calculated Margin (%)	Profit
Sum Aggregate	765,500	157,345	20.55%	
Mean Average	38,275	7,867	20.55%	
Maximum Record	62,000	14,500	23.38%	
Minimum Record	18,500	3,100	16.75%	

The descriptive breakdown in Table 2 establishes the high-yield commercial environment of this short-term marketplace. The 20 sample enterprises cleared a substantial collective revenue pool of PKR 765,500 in 24 hours, yielding a stable average unit intake of PKR 38,275 per trader. Furthermore, the metrics show consistent financial health; even the smallest operational footprint in our dataset managed to generate a clear profit of PKR 3,100 from an PKR 18,500 turnover. The overall sample demonstrates a robust mean profit margin of 20.55%. This level of baseline performance highlights that high consumer traffic combined with minimized infrastructural overhead allows rural micro-retailers to extract strong capital returns during localized event shocks.

To analyze the internal dynamics of the market, the sample was classified into four distinct operational trades. This breakdown confirms that basic consumer supplies generated the highest turnover.

Table 3: Sales and reported or estimated profit by business category (All values in PKR).

Business Category	Vendor Count (N)	Aggregate Sales Volume	Aggregate Net Profit	Mean Profit Margin
Food & Beverages	8	340,000	68,000	20.00%
Garments, Caps & Mats	5	190,000	39,500	20.79%
Religious Books & Items	4	155,000	34,100	22.00%

Small Services & Miscellany	3	80,500	15,745	19.56%
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Table 3 isolates the financial contributions of alternative business lines. The data reveals that Food and Beverage outlets commanded the largest market share, accounting for PKR 340,000 in revenue nearly half of the entire sampled marketplace turnover. This dominant performance underscores the immediate bodily demand for basic dietary provisions created by massive mass concentrations. Conversely, while specialty subsectors like Religious Books and Items recorded smaller total revenues (PKR 155,000), they achieved the highest specific profitability profile with a 22.00% mean margin. This indicates a high willingness to spend on specialized cultural merchandise inside the venue, showing how seasonal events allow vendors to achieve solid markups.

Participant expenditure scenario

Because direct tracking of individual spending was not possible, a separate group-based expenditure model was applied to the participants. The model used a fixed baseline of PKR 1,041 per person to cover two simple meals and shared transport logistics.

Table 4: Illustrative participant meal-and-shared-logistics expenditure scenarios.

Analysis Scenario	Assumed Participants	Unit Benchmark Cost (PKR)	Total Economic Circulation (PKR)	Value in Crores
Lower Bound	55,000	1,041	57,255,000	5.73 Crore
Mid-Point	60,000	1,041	62,460,000	6.25 Crore
Upper Bound	65,000	1,041	67,665,000	6.77 Crore

The financial modeling matrices outlined in Table 4 scale up micro-expenditures to reveal the broader macro-level circulation generated by the mass gathering. By holding the basic per-person cost constant at PKR 1,041 to cover simple catering packages and collective travel setups, the model demonstrates the strong multiplying effect of a large crowd. Under the conservative lower bound of 55,000 logistics users, a substantial cash volume of PKR 57.255 million is put into circulation. If the attendance tracks closer to the upper bound of 65,000 group users, this temporary economic footprint climbs to PKR 67.665 million (PKR 6.77 crore). These scenario-based projections confirm that minor individual transactions, when scaled up across a large crowd, inject significant short-term liquidity into rural logistics networks.

Livelihoods and security settings

These results back up the findings of Nair (2022) and Judah and Bui (2026), proving that short-term cultural and religious gatherings act as powerful economic engines for rural livelihoods.

The most important takeaway from the Khar Ijtema is that this massive trade happened peacefully in a security-sensitive border district. As McCleary (2008) suggests, the shared religious and social setting likely created a high level of mutual trust among participants and local traders. This communal trust acted as an invisible safety system. It reduced transaction costs, kept business safe, and allowed an informal market to thrive smoothly without any security issues. For post-conflict rural economies like Bajaur, these temporary events do more than just provide spiritual value they offer a fast, safe way to pump cash into the local economy and boost community confidence.

Conclusions and Recommendations

The 2026 Tablighi Ijtema in Khar, Bajaur, successfully brought together a peak crowd of 75,000 to 80,000 people after nearly thirty years, demonstrating that large social gatherings act as quick, effective economic lifelines for rural communities. The 20 sampled vendors generated PKR 765,500 in sales over just two days, while broader participant logistics put an estimated PKR 5.73 to 6.77 crore into temporary circulation. This proves that cultural and religious gatherings can drive sudden, micro-level commercial demand in fragile border regions.

Based on these findings, the following policy recommendations are proposed for regional rural development:

1. **Formal Integration into District Planning:** Regional management bodies should incorporate temporary marketplace planning into local municipal frameworks, providing simple sanitation, clean water, and spatial zoning to support informal micro-vendors safely.
2. **Targeted Micro-Credit Deployment:** Financial institutions and local NGOs should offer short-term, low-interest micro-credit facilities right before documented historical gatherings, helping rural traders buy enough stock to maximize their returns during these major demand spikes.
3. **Security-Development Linkages:** Regional planners should recognize large public gatherings as valuable tools for restoring economic confidence in post-conflict border zones, using peaceful events to rebuild communal trust and stimulate informal trade.

Limitations of the Study

This study has a few limitations. First, the crowd size is a working estimate based on pacing and an adapted Jacobs method rather than a full grid count. Second, the vendor analysis covers a sample of 20 out of more than 100 stalls, which cannot show total marketplace turnover. Third, vendor profits were self-reported and not independently audited. Fourth, participant spending relies on group-based benchmarks rather than individual surveys. Finally, this study does not measure long-term economic impacts like spending retention or permanent investor confidence.

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