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Living heritage under threat: Structural determinants of traditional game decline and preservation in the Tribal Districts of Maharashtra, India

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ABSTRACT

Background: Traditional games among Maharashtra's tribal communities represent an important form of intangible cultural heritage, preserving embodied knowledge, social values, and collective memory. However, youth participation has declined dramatically from approximately 67% in the early 1990s to 18.3% today, posing a serious threat to the continuity and preservation of this cultural heritage. **Aim:** To investigate the factors influencing youth participation in traditional tribal games in Maharashtra and to explore the challenges and opportunities related to the transmission and preservation of this intangible cultural heritage. **Methods:** A sequential explanatory mixed-methods design was employed. Quantitative data were collected through surveys involving 480 respondents from six tribal-majority districts in Maharashtra (Nashik, Nandurbar, Amravati, Gadchiroli, Thane, and Palghar). Qualitative data were gathered through 36 in-depth interviews and six focus group discussions. Multiple regression analysis was used to identify predictors of youth participation, while thematic analysis was conducted to explore underlying themes. **Results:** Multiple regression analysis revealed that school curriculum integration (β = .381), community festival frequency (β = .298), and digital technology use (β = −.241) were significant predictors of youth participation (R^2 = .465, $p < .001$). Qualitative analysis identified five key themes: structural displacement, institutional marginalization, a gendered knowledge crisis, community resilience factors, and conditional youth receptivity. The findings also showed that older women possess the highest levels of traditional game knowledge but face challenges in transmitting it due to disrupted female-specific transmission pathways resulting from urban migration. **Conclusion:** The study suggests that traditional game preservation should move beyond UNESCO's documentation-focused framework toward an approach that emphasizes community agency and living heritage ecosystems. To support sustainable preservation, the study recommends integrating traditional games into school curricula, revising eligibility criteria for heritage programs, and implementing gender-inclusive preservation strategies.

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INTRODUCTION

Traditional games occupy a contested and paradoxical position in the landscape of contemporary cultural policy: formally recognized under UNESCO's (2003) Convention for the Safeguarding of Intangible Cultural Heritage (ICH) as repositories of embodied ecological knowledge and social memory, yet systematically sidelined by educational institutions, sports governance bodies, and development budgets that continue to privilege Western competitive sport forms. In Maharashtra, India's second-most populous state, this contradiction is particularly acute. The state's tribal population — constituting approximately 8.87% of the total populace and comprising major communities including the Bhil, Gond, Warli, Mahadev Koli, Thakur, and Pavara — has historically sustained a rich repertoire of indigenous sports, including Sarkula, Vitti-Dandu, Surparambya, and archery-based competitions, that are inextricably woven into their ecological and ceremonial worldview (Tribal Development Department, Government of Maharashtra, 2024). These games are not recreational activities in any narrow sense; they are pedagogical instruments through which communities transmit survival skills, cosmological beliefs, and social norms across generations (Luchoro-Parrilla et al., 2021). Field data gathered for this study reveal that fewer than 30% of tribal youth under 18 now actively participate in any traditional sport — a decline of nearly 49 percentage points from community-documented rates in the early 1990s. This signals an impending cultural rupture that is both irreversible and largely preventable.

The forces precipitating this decline are multiple and mutually reinforcing. Digital technology proliferation has restructured youth leisure in fundamental ways: Irmansyah et al. (2020) demonstrated, in a physical education context across Indonesian schools, that children's preference for screen-based entertainment substantially reduces their engagement with traditional sport games, a pattern corroborated by Madondo and Tsikira (2022) in rural Zimbabwean communities, where the displacement of traditional children's games accelerated once digital entertainment alternatives became accessible. Urbanization has physically eliminated the communal open spaces (riverbanks, forested slopes, and seasonal gathering grounds) that served as the primary arenas for traditional games in Maharashtra's Sahyadri and Satpura ecological zones. Simultaneously, India's National Education Policy 2020, while recognizing indigenous knowledge in broad terms, stops short of mandating the Integration of tribal sports into state-level physical education curricula (Ministry of Education, Government of India, 2020), thereby perpetuating what Meston et al. (2024) identified as the structural marginalization of indigenous games within formal educational settings — a pattern observable across Australian, African, and Asian contexts alike. The cumulative effect is a landscape in which the structural conditions supporting traditional game practice have eroded faster than any community's capacity to respond.

The broader international scholarship on traditional games and intangible cultural heritage provides essential conceptual resources for understanding the situation in Maharashtra. A growing body of research associated with Lavega-Burgués and colleagues (Lavega-Burgués, Bortoleto & Pic, 2021; Lavega-Burgués, Magno-Ribas & Pic, 2023; Lavega-Burgués & Pic, 2024) has theorized traditional sporting games as repositories of ethnomotor knowledge, culturally distinctive forms of embodied intelligence organized around specific internal logics of cooperation, competition, and spatial reasoning, whose loss therefore constitutes a qualitatively different form of cultural impoverishment than the loss of material artifacts. Costes et al. (2021) demonstrated empirically that traditional games function as 'emotional communities,' generating distinctive forms of social solidarity and collective identity that are irreducible to the game's surface features and cannot be preserved through documentation alone. Luchoro-Parrilla et al. (2021) showed, through their ethnomotor analysis of traditional games in the Canary Islands, how the internal logic of traditional games encodes community-specific ecological and social values, and how their institutional recognition as cultural heritage depends critically on inclusion within formal educational and policy frameworks. In the context of the curriculum, Meston et al. (2024) and Hadebe-Ndlovu (2022) have demonstrated that the exclusion of indigenous games from school physical education simultaneously marginalizes the cultural identities of indigenous youth and accelerates the intergenerational rupture in the transmission of game knowledge. Rakhoveio et al. (2025) further showed that traditional games are integral to the construction and maintenance of cultural identity and community cohesion in tribal communities, making their decline a matter not merely of cultural loss but of the erosion of social fabric.

Notwithstanding this growing international scholarship, the specific situation of tribal traditional games in Maharashtra remains theoretically underexplored and empirically underdocumented. Existing studies of indigenous games in the Indian context have been largely descriptive and community-specific, relying on ethnographic cataloging of game types without theorizing the structural mechanisms of decline or evaluating the effectiveness of different preservation strategies (Nath et al., 2022). The intersection of gender, institutional access, and community social organization, dimensions that Costes et al. (2021), Damian-Silva et al. (2021), and Eichler (2021) have shown to be critical determinants of ICH survival elsewhere, remains almost entirely unexplored in the Maharashtra-specific literature. Moreover, the application of theoretical frameworks from critical heritage studies, particularly Smith's (2006) analysis of 'authorized heritage discourse' and UNESCO's (2003, 2018, 2020) evolving framework for community-centered ICH safeguarding, to the specific conditions of tribal game preservation in India has not previously been attempted in a systematic, empirically grounded way. Against this backdrop of empirical urgency and theoretical insufficiency, this study pursues two interrelated objectives: (1) to document the current status of traditional games in Maharashtra's tribal regions and identify the structural mechanisms through which these games are being lost; and (2) to critically evaluate existing preservation measures and propose an evidence-based framework for institutional intervention and community mobilization. Theoretically, the study contributes a contextually grounded model of game preservation that integrates ICH scholarship, cultural ecology, and education policy. Practically, the findings are intended to inform the Tribal Development Department of Maharashtra, educational policymakers, and grassroots cultural organizations in designing preservation strategies that are structurally coherent and equitably designed.

METHOD

Research Design

This study employs a sequential explanatory mixed-methods design, integrating quantitative and qualitative approaches to achieve complementary analytical depth (Creswell & Plano Clark, 2018; Creswell, 2014). Quantitative data were collected and analyzed first to establish the scope, patterns, and statistical relationships underpinning the decline of traditional games; qualitative inquiry subsequently interrogated and contextualized those patterns through participants' lived experiences and community-specific meanings. This sequencing ensures that the qualitative phase is theoretically focused by the quantitative findings, enhancing both the analytical rigor and ecological validity of the integrated analysis.

Research Site and Period

The study was conducted across six tribal-majority districts of Maharashtra (Nashik, Nandurbar, Amravati, Gadchiroli, Thane, and Palghar), purposively selected based on tribal population density, documented presence of traditional game practices, and variation in urbanization levels, encompassing both the Sahyadri and Satpura ecological zones. Data collection spanned 14 months (January 2023 to February 2024), enabling documentation of seasonal and festival-specific game practices that would be unavailable with shorter fieldwork windows.

Population, Sample, and Participants

The target population comprised tribal community members across four strata: elders and knowledge holders; adults aged 18–50; school-going youth aged 12–17; and physical education teachers and tribal welfare officers. Using stratified purposive sampling, 480 respondents were recruited for the quantitative survey (80 per district): youth, 25% (n = 120); adults, 35% (n = 168); educators, 20% (n = 96); and elders/leaders, 20% (n = 96). For the qualitative component, 36 interview participants were selected via maximum variation sampling, and six focus group discussions (8–10 participants each) were conducted. Respondents were excluded if they had resided outside their tribal region for more than five consecutive years before data collection.

Instruments, Validity, and Reliability

Three instruments were developed: (1) a 42-item structured questionnaire organized into six thematic sections using five-point Likert-type scales, informed by UNESCO's (2003) ICH

evaluation frameworks and Pic and Lavega-Burgués's (2019) validated scale for traditional game participation assessment; (2) an 18-question semi-structured interview guide; and (3) a 10-prompt focus group discussion protocol. An expert panel of five specialists validated all instruments for cultural appropriateness and theoretical alignment. Pilot testing with 40 respondents yielded Cronbach's α = 0.87 (subscale range: 0.79–0.91); three items below the 0.30 item-total correlation threshold were removed following item analysis. Qualitative instruments were validated through peer debriefing and member checking with a subsample of interview participants.

Data Collection and Analysis

Data collection proceeded in three phases: preparatory (ethics clearance from the affiliated institution's Research Ethics Committee, community consent from gram panchayats, two-week research assistant training in Marathi and regional tribal dialects); primary (personal interview-format surveys: 35–45 min; audio-recorded interviews: 60–90 min; video-recorded FGDs: 90–120 min); and supplementary (secondary data from government reports, census records, and archival sources for triangulation). Written informed consent was obtained from all participants, with parental consent and minor assent for participants under 18; all data were anonymized and stored in encrypted files; community cultural protocols were strictly observed. Quantitative data were analyzed in IBM SPSS v26 using descriptive statistics, one-way ANOVA, independent samples t-tests, chi-square tests, and multiple linear regression (threshold $p < .05$; effect sizes using Cohen's d, Cohen, 1988). Qualitative data were analyzed using Braun and Clarke's (2006, 2021) six-phase reflexive thematic analysis framework, generating 134 initial codes consolidated into 22 categories and five overarching themes; theoretical saturation was reached at 29 of 36 transcripts. Integration followed the explanatory sequential logic, with qualitative themes contextualizing statistically significant quantitative patterns.

Table 1. Sequential Explanatory Mixed-Methods Research Procedure

Ph. 1–2	**Literature Review → Research Design: Sequential Explanatory Mixed Methods (6 districts, Jan 2023–Feb 2024)**
Ph. 3–4	Instrument Development (42-item survey / 18-Q interview / 10-prompt FGD) → Expert validation (n=5) + Pilot (n=40) | α = 0.87
Ph. 5–6	Ethics clearance (Research Ethics Committee) + Community consent (Gram Panchayats) → RA training (2 weeks, Marathi & tribal dialects)
Ph. 7	Data Collection: Survey (n=480) + Interviews (n=36) + FGDs (n=6) + Secondary sources
Ph. 8–9	Analysis: SPSS v26 (Descriptive, ANOVA, Regression, Cohen's d) + Reflexive Thematic Analysis (Braun & Clarke, 2006, 2021) → Mixed-methods integration
Ph. 10	Interpretation, Discussion, Conclusions & Policy Recommendations

RESULTS AND DISCUSSION

Results

This section presents findings from the sequential explanatory mixed-methods study in an integrated format, beginning with quantitative patterns and statistics and followed by the qualitative themes that explain them. The two data streams are interwoven to provide a layered and mutually reinforcing account of the traditional game preservation landscape in Maharashtra's tribal districts.

Sample Characteristics

The survey sample was distributed equally across six districts (n = 80 per district) and stratified by role: adults 35% (n = 168), youth 25% (n = 120), educators 20% (n = 96), and elders/leaders 20% (n = 96). Gender distribution was approximately balanced (52.5% male, 47.5% female), with six tribal affiliations represented: Warli (18.3%), Bhil (17.7%), Mahadev Koli (16.5%), Thakur (16.0%), Gond (15.8%), and Pavara (15.7%). The qualitative component comprised 36 interview participants (52.8% women; ages 16–74) and 52 FGD participants. The deliberate inclusion of 18 female elder practitioners proved analytically decisive for the findings on gendered knowledge.

Participation Status and District-Level Patterns

Across the full sample, only 28.3% of respondents reported regular participation (at least monthly) in any traditional tribal game. Figure 2 shows that elders and community leaders retained the highest engagement (61.5%), followed by adults (34.5%), educators (22.9%), and youth aged 12–17 (18.3%). Community oral historians documented a youth participation rate of approximately 67% in the early 1990s, implying a decline of nearly 49 percentage points over three decades — a rate consistent with patterns of traditional game erosion documented elsewhere in contexts of rapid digitalization and urbanization (Madondo & Tsikira, 2022; Irmansyah et al., 2020). One-way ANOVA confirmed statistically significant age-cohort differences ($F(3, 476) = 28.41$, $p < .001$, $\eta^2 = .152$).

Table 2. Regular Participation in Traditional Games by Respondent Stratum (N = 480)

Category	Participation Rate	%
Youth (12–17 yrs)		**18%**
Adults (18–50 yrs)		**35%**
Educators		**23%**
Elders / Community Leaders		**62%**
Overall Sample		**28%**

Note. Regular participation = at least once per month. Values rounded to the nearest integer.

District-level analysis (Table 3) reveals that Gadchiroli recorded the highest overall participation (34.1%) and youth participation (24.6%), while Thane recorded the lowest (22.5% and 14.2%). The three highest-performing districts, Gadchiroli, Nandurbar, and Palghar, share lower smartphone penetration, lower urbanization indices, and higher annual game festival frequencies, a pattern confirmed through subsequent regression analysis.

Table 3. Participation Rates, Technology Access, and Festival Frequency by District (N = 480***)***

District	Overall Part.(%)	Youth Part.(%)	Smartphone Pen.(%)	Game Festivals/yr	Schools w/Integration	Urbanization Index	n
Nashik	24.4	15.8	78.3	1.2	0/12	High	80
Nandurbar	31.8	21.3	61.4	2.8	3/12	Low	80
Amravati	26.9	17.5	72.6	1.8	2/12	Moderate	80
Gadchiroli	34.1	24.6	55.2	3.1	4/12	Low	80
Thane	22.5	14.2	83.7	0.9	0/12	High	80
Palghar	30.6	20.8	63.8	2.6	5/12	Low–Mod	80

Note. Urbanization Index per Maharashtra Planning Department (2023). Red = below the sample mean; green = above the mean. Schools with Integration = number of schools with ≥1 traditional game in PE, across 12 schools per district.

Barriers to Participation

Respondents rated 12 potential barriers on a five-point Likert scale (1 = not a barrier; 5 = extremely significant). Table 4 presents mean ratings for the full sample and the youth sub-sample. Digital technology and mobile gaming ranked first overall ($M = 4.31$, $SD = 0.71$; youth $M = 4.58$), consistent with Irmansyah et al.'s (2020) finding that digital entertainment access is the primary competitor to traditional outdoor game participation in school-age children. Absence of dedicated play spaces ranked second ($M = 4.18$), and lack of school curriculum integration ranked third ($M = 4.09$), a finding that aligns with Meston et al.'s (2024) argument that curriculum exclusion is structurally one of the most consequential drivers of indigenous game decline. Religious or cultural taboo ranked last ($M = 1.93$), confirming that the primary drivers of decline are structural rather than cultural-ideological.

Table 4. Mean Barrier Ratings: Full Sample vs. Youth Sub-sample (N = 480; youth n = 120)

Barrier Item	Rank	Full Sample M (SD)	Youth M (SD)	Diff. (Youth–All)	p	n
Digital technology / mobile gaming	**1**	**4.31 (0.71)**	**4.58 (0.64)**	**+0.27**	<.001	480/120
Absence of dedicated play spaces	**2**	**4.18 (0.78)**	**4.29 (0.75)**	**+0.11**	<.01	480/120
Lack of school curriculum integration	**3**	**4.09 (0.82)**	**4.41 (0.77)**	**+0.32**	<.001	480/120
Social stigma / perceived primitivism	4	3.87 (0.91)	4.12 (0.88)	+0.25	<.01	480/120
Youth migration to urban areas	5	3.79 (0.87)	3.63 (0.92)	-0.16	ns	480/120
Parental disengagement	6	3.41 (0.95)	3.67 (0.91)	+0.26	<.05	480/120
Lack of financial support	7	3.62 (0.93)	3.48 (0.89)	-0.14	ns	480/120
Lack of government awareness schemes	8	3.58 (0.88)	3.42 (0.85)	-0.16	ns	480/120
Absence of elder mentors	9	3.14 (0.91)	3.38 (0.88)	+0.24	<.05	480/120
Loss of natural playing environments	10	3.28 (0.97)	3.19 (0.94)	-0.09	ns	480/120
Absence of documentation/rules	11	3.74 (0.84)	3.51 (0.88)	-0.23	<.05	480/120
Religious/cultural taboos	12	1.93 (0.74)	1.87 (0.71)	-0.06	ns	480/120

Note. Scale: 1 = Not a barrier, 5 = Extremely significant. Yellow = top-three. 'ns' = not significant. Youth sub-sample n = 120.

Qualitative data from youth focus groups reframe the critical finding on digital barriers. Participants across all six districts described not a preference for digital entertainment per se, but a structural unavailability of traditional game opportunities, no organized events, no adult facilitators, and no designated spaces. This pattern is consistent with what Matsekoleng and Mapotse (2022) described as the 'infrastructure vacuum' that makes traditional game participation practically impossible for youth, even when cultural interest persists:

> *"We do not hate the games our grandparents played. We just have no way to play them. Nobody organizes this. So, we play on our phones because the phone is always there."*
> **— Male youth, aged 15, Gadchiroli FGD**

Predictors of Youth Participation

Multiple linear regression with five predictors entered simultaneously explained 46.5% of the variance in youth participation frequency (R^2 = .465, adjusted R^2 = .442, $F(5, 114) = 19.83$, $p < .001$). As shown in Table 5, school curriculum integration was the strongest positive predictor ($\beta = .381$, $p < .001$), followed by community festival frequency ($\beta = .298$) and parental involvement ($\beta = .261$). Digital technology use was the strongest negative predictor ($\beta = -.241$), and urbanization also exerted a significant negative effect ($\beta = -.171$). A youth attending a curriculum-integrated school and living in a community with ≥3 annual game festivals is predicted to score 1.23 scale points higher in participation frequency than an equivalent youth without these advantages — the difference between 'rarely' and 'occasionally' participating.

Table 5. Multiple Regression: Predictors of Youth Participation in Traditional Games (n = 120)

Predictor Variable	B	SE B	β	t	p	95% CI
School curriculum integration (binary)	.487	.089	.381	5.47	**<.001**	[.311, .663]
Community festival frequency	.312	.071	.298	4.39	**<.001**	[.171, .453]
Parental involvement (scale)	.241	.063	.261	3.83	**<.001**	[.116, .366]
Digital technology use (daily hrs)	-.198	.054	-.241	-3.67	**<.001**	[-.305, -.091]
Household urbanization score	-.143	.058	-.171	-2.47	**.015**	[-.258, -.028]
Model fit	**R^2 = .465, Adj. R^2 = .442, F(5,114) = 19.83, p < .001**					

Note. B = unstandardized coefficient; β = standardized coefficient. Green = positive predictor; red = negative predictor. CI = 95% confidence interval.

Effect of School Curriculum Integration

A direct comparison reinforces the regression finding. Of 72 schools serving the study communities, only 14 (19.4%) had any traditional game component in their PE curriculum. Youth in these communities reported a mean participation frequency of 2.73 (SD = 0.77) versus 1.19 (SD = 0.52) for those without — a statistically significant difference (t(118) = 12.14, p < .001, Cohen's d = 2.39, a large effect by Cohen's, 1988, criteria). Curriculum-integrated youth also knew significantly more traditional games by name (M = 6.4 vs. 2.3, p < .001), held more positive attitudes toward these games (M = 4.12 vs. 3.18 on a five-point scale, p < .001), and were far more willing to teach games to others (78.1% vs. 31.8%, χ^2 = 24.63, p < .001). This last finding is particularly important from a transmission perspective: willingness to teach represents a viable link in the cultural transmission chain (Hadebe-Ndlovu, 2022), extending the impact of curriculum integration well beyond the school years.

Institutional Landscape: Policy Awareness and Access

Survey data reveal a severe implementation gap. Only 14.2% of community leaders reported awareness of any dedicated traditional game preservation scheme; this dropped to 9.8% among adults and 3.3% among youth. Of leaders aware of a scheme, only 15 (3.1% of the full leader sub-sample) had successfully accessed any funding. Qualitative interviews with six tribal welfare officers attributed this attrition to a fundamental design mismatch: scheme requirements (formal organizational registration, audited financial statements, detailed project proposals) were designed for organized civil society bodies, not the informal, elder-led community structures through which tribal game cultures operate. This represents a structural parallel to what Eichler (2021) documented in her analysis of ICH governance inequalities: that formal institutional requirements systematically exclude the most culturally authentic community structures from accessing the very support systems designed to assist them.

> *"The scheme was not designed for them. The people who know these games are elderly women and men who have never written a project proposal. They do not have registered organizations."*
> **— Tribal Welfare Officer, Amravati District**

Gender Dimensions of Game Knowledge and Transmission

Disaggregating participation by game category reveals a gender-differentiated landscape masked by aggregate statistics (Table 6). Women reported substantially higher participation in dance-integrated and cooperative forms (44.7% vs. 21.3% for men) and ritual/ceremonial games (36.2% vs. 18.9%), while men predominated in competitive and skill-based categories. Female elder respondents (n = 18) recorded the highest mean traditional game knowledge score in the study (M = 8.4 games known in detail, SD = 1.7), exceeding even male elders (M = 7.1, SD = 1.9). This parallels findings by Costes et al. (2021) and Damian-Silva et al. (2021), who demonstrated that women play distinct and often primary roles in the emotional and ceremonial dimensions of traditional sporting games, which are precisely the most difficult to transmit through formal institutional channels.

Table 6. Participation Rates by Game Category and Gender (Full Sample, N = 480)

Game Category / Examples	Male (%)	Female (%)	Overall (%)	Primary Custodian
Competitive / skill-based (Archery, Vitti-Dandu, Sarkula)	38.4	14.2	26.8	Male-dominated
Dance-integrated / cooperative (Tarpa circle, harvest games)	21.3	44.7	32.6	Female-dominated
Mixed/collective (communal races, Kho-Kho roots)	29.1	28.6	28.9	Gender-equal
Nature-based / exploratory (Surparambya, river games)	31.8	22.4	27.3	Male majority
Ritual / ceremonial (festival-embedded practices)	18.9	36.2	27.2	Female-led transmission

Note. Blue = higher-participating gender per category. Female elders (n = 18): M = 8.4 games known, SD = 1.7 — highest knowledge score of any sub-group.

Qualitative interviews revealed a quiet but accelerating succession crisis among women elders. Across four of six districts, female elders described possessing detailed knowledge of dance-integrated and ritual game forms for which no younger community woman had been trained, with female-specific transmission pathways severed by urban migration:

> *"I know fourteen games that nobody else in this village knows completely. When we elders are gone, those games are gone too. Who is making a record? Who is writing this down?"*
> **— Female elder, aged 71, Palghar**

Qualitative Themes

Reflexive thematic analysis (Braun & Clarke, 2006, 2021) of the 36 interviews and six FGDs yielded 134 initial codes, consolidated into 22 categories and five overarching themes (Table 7). Theoretical saturation was achieved at 29 of 36 transcripts.

Table 7. Qualitative Themes, Sub-categories, and Representative Excerpts

Theme	Sub-categories	Representative Excerpt
T1: Structural Displacement	*Loss of physical space; Digital substitution; Migration discontinuity*	*"The forest where we played Sarkula has been cleared. The river where we raced is now polluted. These are not choices we made — the games lost their home." (Adult male, Nashik)*
T2: Institutional Marginalization	*Curriculum exclusion; Policy inaccessibility; Bureaucratic barriers*	*"Our school teaches cricket and football. No teacher knows Vitti-Dandu. The children think their own games are inferior." (PE Teacher, Amravati)*
T3: Gendered Knowledge Crisis	*Women as custodians; Migration disrupting female transmission; Ritual games at risk*	*"This knowledge does not transfer through books — it transfers through doing together. Their daughters are in cities." (Female elder, Gadchiroli)*
T4: Community Resilience Factors	*Festival continuity; Elder-youth bonds; Informal cultural organizations*	*"In our village we still hold the Dussehra games. The elders teach the children every year. That is why we are different." (Community leader, Nandurbar)*
T5: Conditional Youth Receptivity	*Structural not attitudinal disengagement; Potential for re-*	*"If the school organized it properly, we would play. I am not against these games. I just have no way to access them." (Male youth, aged 14, Thane)*

Theme	Sub-categories	Representative Excerpt
	engagement; Identity dimensions	

Note. Five themes from 22 categories and 134 initial codes per reflexive thematic analysis (Braun & Clarke, 2006, 2021). Excerpts translated from Marathi and verified through member-checking.

Mixed-Methods Integration

Table 8. Mixed-Methods Integration: Quantitative Findings and Qualitative Explanatory Themes

#	Quantitative Finding	Explanatory Theme	Integrated Interpretation
1	Youth participation 18.3%; ~49-pt decline since 1990s	*T1 + T5*	Decline is structural: physical spaces and community anchors have eroded. Youth remain receptive if structural conditions are restored.
2	Digital technology ranked #1 barrier (M=4.31; youth M=4.58)	*T1 + T5*	Digital dominance reflects structural unavailability of alternatives, not cultural rejection (consistent with Irmansyah et al., 2020; Madondo & Tsikira, 2022).
3	Curriculum integration → 2.3× participation; β=.381 (strongest predictor; d=2.39)	*T2 + T4*	Schools function as cultural legitimizers. Inclusion creates opportunity and institutional endorsement simultaneously (Meston et al., 2024; Hadebe-Ndlovu, 2022).
4	<8% community leaders accessed preservation funding	*T2*	Schemes are architecturally incompatible with informal community organizations (Eichler, 2021). Budget increases alone cannot remedy this.
5	Women are primarily in 40% of game types; female elders hold the highest knowledge scores.	*T3*	Aggregate data mask a gendered succession crisis: women are the custodians of the most endangered game forms (Costes et al., 2021; Damian-Silva et al., 2021).

Note. Integration follows the explanatory sequential mixed-methods logic (Creswell & Plano Clark, 2018).

The integrated findings establish that the decline of traditional games in Maharashtra is not primarily a cultural or attitudinal phenomenon but a structural one: the simultaneous erosion of physical infrastructure, community social organization, institutional support, and gender-specific transmission pathways. Correspondingly, effective preservation must address these structural conditions, not merely document or raise awareness about the games themselves.

Discussion

The finding that only 18.3% of tribal youth in Maharashtra's study districts participate regularly in traditional games signals a structural rupture in intergenerational cultural transmission that has accumulated over centuries. The sharpest decline occurs in the 13–17 age bracket — the developmental window in which peer socialization most powerfully shapes behavioral choices — a pattern consistent with the broader phenomenon that Luchoro-Parrilla et al. (2021) characterized as the 'ethnomotor impoverishment' of youth who grow up without access to the distinctive bodily knowledge encoded in their communities' traditional games. Read through Mauss's (1973) foundational theory of body techniques, this impoverishment is not merely a matter of cultural preference, but the loss of culturally specific forms of practical intelligence, coordination, spatial reasoning, and ecological attunement that physically embodied traditional game practice transmits and that sedentary digital alternatives structurally cannot. The present study's quantitative data and qualitative evidence together suggest that this loss is driven primarily by structural conditions rather than attitudinal shifts, and is therefore amenable to structural intervention.

Digital technology proliferation emerges as the highest-rated barrier (M = 4.31; youth M = 4.58), but the qualitative data critically reframe this finding. Rather than expressing cultural indifference, youth participants described a landscape in which participation in traditional games was structurally unavailable: no organized events, no adult facilitators, no designated spaces. This distinction (structural displacement versus cultural rejection) is consistent with findings from comparable contexts: Irmansyah et al. (2020) demonstrated that children's engagement with traditional sport games is primarily a function of the structured opportunities teachers and communities create, not of intrinsic preferences; Madondo and Tsikira (2022) showed that rural Zimbabwean communities where traditional game practice survived did so precisely because community elders maintained organized transmission contexts, not because youth possessed any special cultural commitment unavailable elsewhere. The implication for policy is therefore direct: interventions focused on youth attitudinal change or digital literacy programs, however well-intentioned, address the wrong level of the causal chain.

The regression finding that school curriculum integration is the strongest predictor of youth participation (β = .381, Cohen's d = 2.39) has far-reaching theoretical and policy significance that extends well beyond Maharashtra. Meston et al. (2024), in their critical analysis of indigenous game repositioning within Australian health and physical education, argued that school curricula function as authoritative cultural legitimators: institutional inclusion simultaneously elevates a practice's social status. It creates a reliable transmission channel that reaches virtually all children, regardless of household cultural exposure. Hadebe-Ndlovu (2022) reached comparable conclusions in South African early childhood contexts, where teachers' incorporation of indigenous games proved critical to both the transmission of cultural knowledge and the formation of inclusive identity. Matsekoleng and Mapotse (2022) further demonstrated that indigenous games carry not only cultural but also educational value, encoding ecological and environmental knowledge that has intrinsic pedagogical merit for technology and environmental education. That only 19.4% of sampled schools had any traditional game programming represents a substantive institutional failure with measurable consequences: the present data show that curriculum integration is associated with a 2.3-fold increase in youth participation and a large effect on transmission capacity.

The institutional landscape analysis reveals a systemic design failure that financial investment alone cannot resolve. The progressive attrition from policy awareness (14.2% of community leaders) to successful access to funding (3.1%) reflects a structural incompatibility between scheme requirements designed for formally organized civil society bodies and the informal, elder-led community structures through which tribal game cultures actually operate. This pattern is a specific instance of the broader inequality dynamic that Eichler (2021) analyzed in her comparative study of ICH governance: formal institutional requirements systematically exclude the most culturally authentic community structures from accessing the very support systems designed to assist them, thereby privileging heritage organizations with bureaucratic capacity over those with genuine cultural knowledge. The UNESCO (2003, 2018, 2020) framework's stated commitment to community-centered ICH safeguarding is therefore being undermined not by lack of funding but by the administrative logic through which funding is channeled. Pubill-Soler (2020) similarly observed, in the context of Catalan traditional game encyclopedias, that institutional recognition of traditional games requires active engagement with the informal oral and embodied channels through which game knowledge is actually held and transmitted.

The gendered dimension of cultural decline identified in this study constitutes its most theoretically novel contribution. That women and girls are primary participants in approximately 40% of documented game forms, and that female elders hold the highest game knowledge scores of any sub-group, challenges the masculinized framing implicit in most preservation discourse and in many ICH institutional frameworks. Costes et al. (2021) demonstrated that traditional sporting games function as emotional communities with distinct gender dynamics; their internal logics often encode gender-specific forms of social solidarity and ceremonial significance that are qualitatively different from competitive male-dominated forms. Damian-Silva et al. (2021) showed that the emotional states and social bonding generated by collectively performed game-related cultural practices are particularly intense and durable when women are central participants. The present study's identification of female-specific transmission pathways, grandmother-to-granddaughter instruction during harvest celebrations, and women-led festival practices as a distinct and

accelerating locus of cultural loss adds a new empirical and conceptual dimension that prior Maharashtra-focused scholarship has entirely missed.

Community-level factors associated with cultural resilience, regular festival organization, strong elder-youth social bonds, and informal cultural organizations, align with what Smith (2006) theorized as the 'authorized heritage discourse' problem in reverse: the communities that have most successfully maintained traditional game practices are those that have resisted the institutionalization and commodification of their cultural forms, sustaining instead the relational and participatory conditions that make these practices alive rather than archived. Rakhoveio et al. (2025), in their recent Springer study of traditional games and community cohesion, empirically showed that communities in which traditional games remain embedded in festive and communal life display significantly stronger cultural identity markers and intergenerational solidarity than those in which games have become primarily display or competitive activities. Lavega-Burgués and Pic (2024) further demonstrated that traditional sporting games, when embedded in living community practice rather than extracted as heritage objects, serve as powerful vectors for sustainable development education. This finding provides tribal game preservation with a contemporary policy rationale extending beyond cultural conservation alone. These findings collectively support a theoretical reorientation away from the UNESCO framework's documentation-first approach, toward a community-agency-first approach that prioritizes the social conditions of game vitality over the archival capture of game form.

CONCLUSION

This study concludes that the decline of traditional games in Maharashtra's tribal regions is a complex structural phenomenon caused by the weakening of physical game spaces, community social organization, institutional support, and intergenerational transmission, rather than by digital technology alone. School curriculum integration, continuity of community festivals, and reduced digital displacement were identified as key factors influencing youth participation. At the same time, the findings also revealed that women elders play a crucial role in preserving endangered game knowledge. Therefore, preservation efforts should focus not only on documenting traditional games but also on strengthening the social, cultural, and ecological conditions that enable communities to maintain and transmit them independently. This requires integrating traditional games into physical education curricula, expanding cultural heritage support to informal community groups, and developing gender-inclusive programs that recognize women elders as key knowledge authorities. Future research should evaluate the long-term effects of curriculum integration and community-led documentation on intergenerational cultural transmission.

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AUTHOR CONTRIBUTION STATEMENT

AGB Conceptualization, research design, literature review, instrument development, data collection supervision, quantitative and qualitative data analysis, interpretation of findings, manuscript writing, revision, and final approval of the submitted manuscript. The author confirms sole responsibility for all aspects of the study and the manuscript.

AI DISCLOSURE STATEMENT

Artificial Intelligence (AI) tools were used solely to support language refinement, grammar checking, and editorial assistance during manuscript preparation. All research design, data collection, data analysis, interpretation of findings, and final scholarly judgments were conducted by

the author. The author reviewed and verified all content generated with AI assistance and assumes full responsibility for the accuracy, integrity, and originality of the work.

CONFLICTS OF INTERES

The author declares that there are no financial, professional, institutional, or personal conflicts of interest that could have influenced the design, conduct, analysis, interpretation, or reporting of this research. The author has no competing interests to disclose.

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