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MEASURING THE SOCIO-SPIRITUAL ENVIRONMENT: A MIND-HEART-CONDUCT FRAMEWORK AND COMPOSITE INDEX FOR UZBEKISTAN

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Abstract
Since 2019, Uzbek policy has called for a method to determine and improve the state of communities' "socio-spiritual environment" (SSE), but existing ratings count spiritual-educational events or score socio-economic conditions, and no validated instrument measures the environment itself. This article proposes a framework and a composite index that measure the SSE as the collective spiritual state of a territorial community. A conditions-activities-state (CAS) logic model keeps only indicators of state in the index, which limits the distortions predicted by Campbell's law. Following the tripartite model of attitudes, eight dimensions form three layers: mind (information culture; ideological immunity, understood as resilience to manipulation), heart (values, mutual trust, harmony) and conduct (civic activity, family stability, legal order), measured by 32 survey, administrative and expert indicators. The Socio-Spiritual Environment Index (SSEI) uses fixed goalposts and geometric aggregation, and Alkire-Foster cut-offs identify "problem points" for targeted support rather than ranking. The validation plan is fixed before data collection.

Keywords: Socio-spiritual environment; composite index; social indicators; ecometrics; mahalla; Uzbekistan.

1. Introduction

Since the late 2010s, the "socio-spiritual environment" (ijtimoiy-ma'naviy muhit; hereafter SSE) has been a working category of Uzbek public policy. A 2019 presidential resolution ordered a draft methodology for establishing its state and improving it in a targeted way (President of the Republic of Uzbekistan, 2019). A 2021 resolution created the Institute for Socio-Spiritual Research and required permanent monitoring (President of the Republic of Uzbekistan, 2021).

Assessment practice has not kept up. The indicators and cut-offs behind earlier colour maps are not disclosed in available sources (Kakharova, 2024, pp. 201-205).

Other tools rate citizens' assemblies by their activities (Cabinet of Ministers of the Republic of Uzbekistan, 2020) or classify "heavy-category" districts and mahallas (neighbourhoods) by socio-economic indicators (President of the Republic of Uzbekistan, 2026). The Institute's 2025 survey of 378,557 respondents reports separate items without a composite index (Institute for Socio-Spiritual Research, 2025). National studies list indicators but offer no instrument (Kakharova, 2024, pp. 221-227). International indices of cohesion and well-being (Dragolov et al., 2013; Larsen & Boehnke, 2016; Ura et al., 2012) do not cover how a community handles information and resists manipulation.

This article proposes a framework and a composite index, the Socio-Spiritual Environment Index (SSEI), with a validation design fixed before data collection. Apart from one illustration, it reports no empirical results.

2. Conceptual Framework

2.1 Defining the Socio-Spiritual Environment

Existing definitions (e.g., Kakharova, 2024, p. 232) mix conditions, activities and state, and name neither a territorial unit nor observable signs. Here the SSE is defined as the collective spiritual state of a territorial community (a mahalla, district, region or society as a whole). It rests on people's shared values, mutual trust and relationships, attitudes to information and ideas, and social conduct, and in turn shapes their consciousness, feelings and actions. It is measured through observable markers in three layers: mind (cognition), heart (values and attitudes) and conduct (practice).

Because the SSE belongs to the community, it is measured ecometrically (Raudenbush & Sampson, 1999), with the mahalla, a hub of informal civic initiatives (Urinboyev & Eraliev, 2022), as its primary unit. It shares the relational core of social cohesion (Chan et al., 2006) but adds a cognitive layer, namely how a community receives, checks and resists information, and normative content such as values, family stability and respect for law.

2.2 The Conditions-Activities-State (CAS) Logic Model

Programme evaluation separates what an intervention does from what it achieves (W. K. Kellogg Foundation, 2004). Applied to the SSE, this gives three blocks. Conditions (the socio-economic, demographic, infrastructural and informational context, including subjective well-being and "heavy-category" status) stratify and explain results. Activities (spiritual-educational work) are evaluated separately by coverage, quality and targeting. Only the state, the SSE itself, is scored, for three

reasons. The effect of activities can be estimated only if they are measured apart from the state. Indicators used for consequential decisions invite distortion (Campbell, 1979): scoring events rewards holding events, and penalising recorded divorces or violence rewards under-recording. And while conditions and activities are already recorded, the state has no integrated measure. Measurement, decisions, targeted activities and re-measurement then form a cycle.

2.3 Layers of the Environment

Following the tripartite model of attitudes (Rosenberg & Hovland, 1960), the eight dimensions form three layers (Table 1): mind (information culture, ideological immunity), heart (values, mutual trust, harmony) and conduct (civic activity, family stability, legal order). Ideological immunity is understood strictly as resilience to manipulation and destructive appeals, by analogy with inoculation against persuasion (McGuire, 1964). The layer structure is a hypothesis to be tested (Section 5).

3. The Indicator System

Each dimension has four indicators from a representative survey (S), administrative statistics (A) or rubric-based expert assessment (E): 22, six and four indicators respectively (Table 1).

Table 1. Dimensions and indicators of the Socio-Spiritual Environment Index

Code	Indicator	Data	Scale / unit
Mind layer (cognition): IC - Information culture; II - Ideological immunity (resilience to manipulation)			
IC1	Habit of checking the source of sensational news before sharing it	S	1-5
IC2	Recognising false news: judgements on two genuine and two false items	S	% correct
IC3	Reliance on official or professional sources; attention to reliability	S	1-5
IC4	Expert rating: information culture in the territory	E	0-10
II1	Rejection of destructive appeals (three vignettes)	S	1-5
II2	Recognition of signs of manipulation (knowledge items)	S	% correct
II3	Grounding in national identity and historical memory	S	1-5
II4	Expert rating: resilience to ideological threats	E	0-10

Heart layer (values and attitudes): VA - Values; MT - Mutual trust; HA - Harmony			
VA1	Personal importance of core values: kindness and mutual care (mehr-oqibat), honesty, diligence, respect for elders, patriotism, striving for knowledge	S	1-5
VA2	Perceived adherence to these values in the mahalla	S	1-5
VA3	Integrity norms: not justifying bribery, tax evasion and the like	S	1-10, reverse-coded
VA4	Expert rating: value climate	E	0-10
MT1	Generalised trust ("most people can be trusted")	S	0-10
MT2	Trust in neighbours and mahalla residents	S	0-10
MT3	Trust in local institutions (mahalla, khokimiyat (local administration), internal affairs bodies, school, health care)	S	0-10, mean
MT4	Social support: having someone to turn to for help in difficult times	S	%
HA1	Assessment of interethnic and interfaith relations	S	1-5
HA2	Willingness to accept a neighbour of another ethnicity or religion	S	%
HA3	Complaints about family-household and neighbourhood conflicts (-)	A	per 1,000 households
HA4	Expert rating: low risk of social tension	E	0-10
Conduct layer (practice): CA - Civic activity; FS - Family stability; LO - Legal order			
CA1	Participation in hashar (communal voluntary work), volunteering and charity (last 12 months)	S	%
CA2	Participation in mahalla meetings and public consultations	S	%
CA3	Votes in the "Initiative Budget" (participatory budgeting) relative to the adult population	A	%
CA4	Self-initiated reading and cultural attendance (last 3 months)	S	%
FS1	Divorces (-)	A	per 1,000 population or per 100 marriages
FS2	Early marriages (under 18; detected cases) (-)	A	per 1,000 marriages
FS3	Satisfaction with family relationships	S	0-10
FS4	Intergenerational communication and family time (weekly frequency)	S	1-5
LO1	Recorded crimes (3-year moving average) (-)	A	per 10,000 population
LO2	Juvenile offences (-)	A	per 10,000 persons aged 14-17
LO3	Feeling safe walking alone in one's mahalla in the evening	S	%
LO4	Respect for the law (low legal nihilism)	S	1-5

Note. S = survey; A = administrative statistics; E = expert assessment; (-) = higher values mean a worse state (reverse-scored); for VA3, higher scores mean stronger integrity norms. Source: author's elaboration.

Information culture is measured through competence and habits rather than media exposure. Rates that depend on recording are paired with survey items: divorces with family satisfaction, and recorded crime with perceived safety and a respect-for-law scale adapted from Sampson and Bartusch (1998). Every indicator is also computed for young people, women and men, urban and rural residents and language groups.

4. Construction of the Index

4.1 Scoring, Normalisation and Aggregation

Survey answers from a stratified multistage probability sample are rescaled to 0-100 (five-point items as $(x - 1)/4 \times 100$, 0-10 items as $10x$, VA3 as $(10 - x)/9 \times 100$, binary items as 0 or 100) and averaged with design weights. Administrative indicators are population rates; expert indicators are rubric-based 0-10 ratings (× 10) by at least three experts per unit, never only from the unit assessed. Each indicator value x is then rescaled against a lower goalpost L and an upper goalpost U:

$I = (x - L) / (U - L) \times 100$ for positive indicators,

$I = (U - x) / (U - L) \times 100$ for negative indicators,

with results truncated to (0, 100). Goalposts are fixed in the base year (5th and 95th percentiles for administrative rates, theoretical bounds otherwise), so that a change in I reflects only a change in x (OECD & JRC, 2008). A dimension score is the mean of its four indicators, $D_j = \Sigma_i w_{ij} \times I_{ij}$ with $w_{ij} = 1/4$; a layer score is the geometric mean of its dimension scores, $L_k = (\Pi_{j \in k} D_j)^{1/n}$, where n is the number of dimensions in the layer (two in mind, three in heart and in conduct) and each D_j is floored at 1; and the index is the geometric mean of the layers:

$SSEI = (L_{mind} \times L_{heart} \times L_{conduct})^{1/3}$.

The layers therefore count equally, and a balanced profile scores higher than an unbalanced one with the same arithmetic mean (Munda & Nardo, 2009).

4.2 Weighting and Uncertainty

Equal weights are the baseline because they are transparent and the evidence does not yet support ranking the dimensions. Weights from the analytic hierarchy process (AHP), elicited from 15-25 experts (consistency ratio up to 0.10; Saaty, 1990), and principal-component weights will be reported alongside. At least 10,000 Monte Carlo runs will vary the weights, the balance of data streams (including the 40/30/30 survey-statistics-expert split proposed in 2026), normalisation and aggregation. Units with unstable results will be flagged as uncertain (OECD & JRC, 2008).

4.3 Bands, Problem Points and Multi-Level Estimation

Scores are read against five provisional bands (80-100 high, 65-79.9 good, 50-64.9 medium, 35-49.9 low, 0-34.9 critical) and mapped as green (65 and above), yellow (50-64.9) and red (below 50); unlike earlier maps (Kakharova, 2024, p. 205), each colour has a published cut-off.

Problem points follow the dual cut-off method of multidimensional poverty measurement (Alkire & Foster, 2011), also used in Bhutan's Gross National Happiness (GNH) Index (Ura et al., 2012). A unit is a problem point if at least three of its eight dimension scores are below 50 or if any layer score is below 40 ("layer crisis"). The deprived dimensions show what support is needed, such as media-literacy training, mediation, family counselling or prevention, so the result is an address list for help, not a league table.

Indices at every level, from mahalla to republic, are computed from indicators aggregated to that level, not from averaged lower-level indices, and small mahalla samples are stabilised by small-area estimation (Fay & Herriot, 1979). Units below the reporting level must be profiled. In one region of the Institute's 2024-2025 survey, the share answering "No, I am not a patriot; for me the homeland is wherever life is good" fell from 6.7% to 4.9%, while in six of its districts it rose from 1.9-5.1% to 4.9-17.4% (Institute for Socio-Spiritual Research, 2025). If these figures are correct, the regional mean hid a deterioration in six districts.

5. Validation Design and Pilot Plan

The validation plan is fixed before data access (Table 2). A pilot in 2026-2027 will cover 20 mahallas, stratified by prior designation, in each of two districts (about 1,200 respondents) and 20-25 experts, with Uzbek, Russian and Karakalpak questionnaires. The Institute's 2022 survey of "red" and "yellow" mahallas (N = 3,870; Kakharova, 2024, pp. 137-139) and, if released, the depersonalised 2024-2025 microdata will be analysed as secondary data.

Table 2. Pre-specified validation plan for the SSEI

Property	Method and criterion	Source
Content validity	Expert essentiality ratings and cognitive interviews in three languages; content validity ratio above the critical value	Lawshe (1975)
Internal consistency	Cronbach's α for multi-item indicators and survey subsets; α ≥ 0.70	Nunnally & Bernstein (1994)

Property	Method and criterion	Source
Factor structure	CFA by dimension; second-order layer model vs one-factor and correlated-dimension models; CFI ≥ 0.95, RMSEA ≤ 0.06, SRMR ≤ 0.08	Hu & Bentler (1999)
Measurement invariance	Multi-group CFA (configural, metric, scalar) by language, gender and age; groups compared only at the level achieved	Putnick & Bornstein (2016)
Ecological reliability and expert agreement	ICC(1) > 0 and adequate ICC(2) at mahalla level, with respondents per mahalla set by the Spearman-Brown formula; ICC of rubric ratings from at least three experts per unit	Raudenbush & Sampson (1999); Bliese (2000)
Known-groups validity	Lower SSEI and more deprivations in mahallas once rated "red" or "yellow" than in comparable ones (indicative only: earlier criteria are not public)	Kakharova (2024, pp. 137-139)
Discriminant validity	SSEI related to, but not redundant with, the conditions block	CAS model (Section 2.2)
Robustness	Monte Carlo and variance-based sensitivity analysis; median ranks with 90% intervals; unstable units flagged	OECD & JRC (2008)

Note. Source: author's elaboration.

6. Discussion

The SSEI borrows the measurement architecture of the Social Cohesion Radar (Dragolov et al., 2013), the sub-national Central Asian approach of the Kyrgyz Social Cohesion Index (Larsen & Boehnke, 2016) and the sufficiency logic of the GNH Index (Ura et al., 2012). It differs from them in aggregating geometrically, in adding a cognitive layer and in separating the state from activities and conditions. "Spiritual" here means not religiosity but the knowledge, values and conduct by which a community orients itself.

Measuring a "spiritual" environment for policy has risks. To keep ideological immunity from becoming a test of loyalty, respondents assess persuasive techniques and vignettes instead of stating political or religious views. Problem-point lists are internal planning documents, and under Law No. ZRU-547 on personal data (Republic of Uzbekistan, 2019) data are depersonalised and no published figure rests on fewer than 30 respondents. The framework also has limits: expert ratings may be biased by local knowledge or institutional position, administrative rates partly measure recording, social desirability is likely on sensitive items, and terms such as ma'naviyat (spirituality) and mehr-oqibat may lose meaning in translation. The value list and bands are normative choices open to review, the data may not support

geometric aggregation, and use outside Uzbekistan would require new content validation.

7. Conclusion

The framework answers the policy demand, voiced since 2019, to determine the state of the socio-spiritual environment: it defines that state, separates it from conditions and activities, and measures it with an index whose validation plan is fixed in advance. If the framework holds, spiritual-educational work would be judged by how far the environment changed where support was directed, not by how many events were held.

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