A DIGITAL MONITORING PLATFORM FOR THE SOCIO-SPIRITUAL ENVIRONMENT IN UZBEKISTAN: ARCHITECTURE, DATA GOVERNANCE AND THE ANNUAL ASSESSMENT CYCLE

Jasur Akbarovich Boltaev
Independent Researcher, Institute for Socio-Spiritual Research under the Republican Centre for Spirituality and Enlightenment, Tashkent, Uzbekistan
jasurboltayev84@gmail.com | ORCID: [ORCID]

Abstract. *Uzbekistan has sought a permanent system for monitoring the socio-spiritual environment (SSE) since 2021, but no validated way of measuring its state is in use. A large population survey reports percentages item by item, and much reporting centres on activities such as events held. This thesis proposes a model of a digital monitoring platform for the Socio-Spiritual Environment Index (SSEI). The model covers six modules (data collection, quality control, computation, analysis and visualisation, action tracking, privacy and security), data-governance rules based on the Law on personal data, and an annual cycle in which a dual cut-off flags problem points for targeted plans and re-measurement. To guard against Campbell's and Goodhart's laws, diagnostic profiles are preferred to punitive rankings. No index results are given; one illustration draws on aggregate figures from an internal survey report.*

Keywords: *socio-spiritual environment; digital monitoring platform; composite index; data governance; problem-point map; mahalla*

Annotatsiya. Tezisda O‘zbekistondagi ijtimoiy-ma’naviy muhitni baholash uchun raqamli monitoring platformasi modeli taklif etiladi. Platforma ma’lumotlarni yig‘ish, sifat nazorati, hisoblash, tahlil va vizuallashtirish, chora-tadbirlar ijrosini kuzatish, maxfiylik hamda xavfsizlikni ta’minlashga oid oltita moduldan iborat. Yillik baholash sikli va muammoli nuqtalarni aniqlash yondashuvi bayon qilinadi. Indeksning amaliy natijalari keltirilmaydi.

Kalit so‘zlar: *ijtimoiy-ma’naviy muhit, raqamli monitoring platformasi, integral indeks, ma’lumotlarni boshqarish, muammoli nuqtalar xaritasi, mahalla.*

Аннотация. *В тезисе предлагается модель цифровой платформы мониторинга социально-духовной среды Узбекистана. Платформа включает шесть модулей: сбор данных, контроль качества, расчёт показателей, анализ и визуализацию, отслеживание мер, конфиденциальность и безопасность. Описываются годовой цикл оценки и подход к выявлению проблемных точек. Практические значения индекса не приводятся.*

Ключевые слова: *социально-духовная среда, цифровая платформа мониторинга, композитный индекс, управление данными, карта проблемных точек, махалля.*

Rationale: from activity reporting to state measurement

Presidential Resolution No. PQ-5040 of 26 March 2021, which aimed to radically improve the organisation of spiritual and educational work (President of the Republic of Uzbekistan, 2021), made it a reform priority to introduce a permanent monitoring system that would make the socio-spiritual environment (SSE) more stable. The same resolution set up the Institute for Socio-Spiritual Research under the Republican Centre for Spirituality and Enlightenment (RCSE). Cabinet of Ministers Resolution No. 340 of 3 June 2021 then required the Institute to prepare science-based proposals on how the state of the SSE should be researched, assessed and improved, and to introduce indicators for measuring the effectiveness of educational work (Cabinet of Ministers of the Republic of Uzbekistan, 2021). The mandate thus distinguishes the state of the environment from the effectiveness of educational work.

Practice has not kept pace with this mandate. The RCSE household surveys of 2018-2019 mapped the spiritual and educational environment and reached 72.5% of households in Karakalpakstan and 75.7% in Jizzakh region (Kakharova, 2024, pp. 201-205), but this work has since lost momentum (p. 128). The same study attributes the 2019 task to the absence of a methodology for establishing the SSE's state and targeting its improvement (p. 54) and notes that no system for studying the population's spiritual mood has been introduced (p. 164). The Institute surveyed the population in 2024 and 2025 (the 2025 round reached 378,557 respondents in all 14 regions) and compared regional and district results with those of 2024, but its report (Institute for Socio-Spiritual Research, 2025) gives item-by-item percentages without a composite index, published thresholds or documented quality checks. Without such a system, reports tend to count events held and participants reached. These figures show activity, not whether trust or harmony in a mahalla (neighbourhood community) has changed.

This thesis sets out a model of a digital monitoring platform that would turn the mandate into routine measurement of the environment's state. The platform serves the Socio-Spiritual Environment Index (SSEI) developed in the author's dissertation: 32 indicators in eight dimensions, grouped into cognitive-affective-behavioural (mind-heart-conduct) layers. The mind layer holds information culture and ideological immunity; the heart layer holds values, mutual trust and harmony; and the conduct layer holds civic activity, family stability and legal order. The indicators

draw on a representative survey (22), administrative statistics (6) and expert assessment (4). Under the CAS (conditions-activities-state) logic model, the SSEI measures only the state; activities and conditions are recorded separately to explain change. The platform is a proposal and does not yet exist.

Platform architecture: six modules

In the proposed design, data pass through six modules from collection to decision, and every transformation is logged.

1. **Data collection.** Survey interviews use computer-assisted personal or web interviewing (CAPI/CAWI). At least three experts score each unit on 0-10 rubrics using electronic forms. Administrative indicators come from agencies' information systems through application programming interfaces (APIs).

2. **Quality control.** Logical and range checks run at entry, and paradata such as interview duration and GPS location flag implausible interviews. A 10% sample of interviews is back-checked. Before publication, aggregate checks test that totals add up, that shares sum to 100%, that regional values agree with the weighted values of their districts and that no unit's figures are duplicated. A review of the 2025 survey report (region and district names withheld) found inconsistencies of every kind these checks target, possibly introduced when the report was compiled. For example, regional sample sizes sum to 2,009 more than the reported total, and one region's figures are repeated in another region's section (Institute for Socio-Spiritual Research, 2025).

3. **Computation.** Following OECD and JRC (2008), raw data are turned into indicator, dimension, layer and index scores in several steps: imputation, normalisation to 0-100 against goalposts set in the base year, weighting, arithmetic aggregation within dimensions, geometric aggregation across dimensions and across layers, and Monte Carlo analysis of uncertainty and sensitivity. Survey-based mahalla scores are ecological measures built from individual answers, so their reliability is checked at the mahalla level (Raudenbush & Sampson, 1999). Higher levels are scored from population-weighted indicators, never by averaging lower-level indices.

4. **Analysis and visualisation.** Results are shown in a dashboard, maps, eight-dimension unit profiles and time series. Each score can be broken down into its indicators, so it is clear why a unit scores as it does, not only where it stands.

5. **Action tracking.** For each problem point the module records the diagnosed deficit, measure, responsible body, deadline and re-measurement. Activity indicators (coverage of measures, participants' ratings of their quality, targeting of problem points) are kept in this module, outside the SSEI.

6. **Privacy and security.** This module turns the governance rules described below into software controls: depersonalisation, role-based access and suppression of small cells in published outputs. Every access is logged.

Data governance

Survey answers are personal data, so the platform's legal basis is the Law of the Republic of Uzbekistan "On personal data" (No. ZRU-547 of 2 July 2019; Republic of Uzbekistan, 2019). Article 16 defines depersonalisation as actions after which personal data can no longer be attributed to a specific subject. Article 18 allows processing for the purposes of statistics or other research, subject to mandatory depersonalisation. For this reason, identifiers are split from responses on entry, and the contact details needed for back-checks are stored separately with restricted access.

Four further rules apply. First, no survey estimate is published for a unit with fewer than 30 respondents, and no output may identify a person. Second, access is role-based: mahalla bodies see their own profile, district authorities those of their mahallas, and only the Institute's analysts see record-level depersonalised data. Third, no unit supplies all the data on itself. The survey is run independently of local bodies, and expert panels include outside members, which limits self-reporting bias. Fourth, the methodology is versioned and open: a methodological council at the Institute approves changes, and each version is published as a technical note that documents every construction step (OECD & JRC, 2008).

Annual cycle and decision loop

The platform runs an annual cycle of data, analysis, decision and re-measurement. In the first quarter, the methodology and questionnaire are updated and the sample and expert panels prepared. The second quarter is for fieldwork and administrative data transfer. In the third, scores are computed, verified and tested for sensitivity. In the fourth, the Institute issues a national report, territorial profiles and a list of problem points, which the RCSE, khokimiyats (local administrations) and mahalla bodies turn into targeted plans. The next year's measurement closes the loop.

Problem points are identified by adapting the dual cut-off method that Alkire and Foster (2011) designed for measuring multidimensional poverty. In the baseline specification, a unit is deficient in a dimension when its score is under 50 (first cut-off). It counts as a problem point when it is deficient in at least three of the eight dimensions (second cut-off) or when any layer score is below 40; the pilot will test these values. The resulting problem-point map gives each unit's profile of deficits, and the profile shapes the response. For example, weak information culture and ideological immunity call for media-literacy training, and deficits in values and harmony for dialogue and mediation. Weak family stability calls for family

counselling, low civic activity for initiative budgeting and volunteering, and gaps in legal order for prevention. With annual re-measurement, the effect of a measure can be estimated in difference-in-differences fashion, by comparing the change in targeted units with that in comparable untargeted units.

Risks and safeguards

The main risk is that the index becomes a target. Campbell (1979) argued that a quantitative indicator used for social decisions invites manipulation and distorts the processes it was meant to observe; Strathern (1997) generalised Goodhart's law: once a measure becomes a target, it loses its value as a measure. The platform has three safeguards against this. First, there are no league tables: the platform publishes profiles and problem-point lists, and a low score triggers support, not sanctions. Second, indicators open to strategic reporting are treated with care. Domestic-violence protection orders are monitored for diagnosis but not scored, since higher counts may reflect better detection and scoring them would reward concealment. Crime rates enter as three-year averages and are read alongside the survey-based sense of safety. Third, data quality is audited: back-checks and paradata help detect fabricated interviews, and administrative series are compared with survey estimates.

Conclusion

The proposed platform would change what spiritual and educational work is held accountable for. Counting events encourages *tadbirbozlik* (holding events for their own sake); the platform would instead track how the state of the environment changes in each mahalla, district and region, link every measure to a diagnosed deficit and check a year later whether that deficit has narrowed. It relies on independent and lawful data collection and on an open, versioned methodology, and its results are meant for support, not punishment. The next step proposed is to pilot the full cycle in two districts, with 20 mahallas in each.

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