

Shubham Mishra

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Date of Birth: 14th May 1981

1. PROFESSIONAL EXPERIENCE

1.1. The World Bank, New Delhi

1.1.1. Short Term Consultant, Tamil Nadu Climate Resilient Urban Development Program (October 2021 – June 2025)

The Consultant is responsible for providing technical assistance to the World Bank team in formulating Terms of Reference for engaging consultants for city scale property and utility mapping and developing GIS dashboards.

1.1.2. Short Term Consultant, Urbanization and Access to Affordable Housing: A Comparative Assessment of South Asian Cities (November 2013 – November 2014)

As part of South Asian Unit of the World Bank's work on understanding the pattern of urbanization in the region, the consultant was assigned the task of mapping land and housing markets in select cities of India. The work involved collecting land use samples for Kanpur, Auraiyya and Amritsar, analyzing planning related documents and preparing thematic maps to show demographic trends and spatial growth of these cities since the early 1990s.

1.2. Surbana Jurong & SMEC India Pvt. Ltd.

1.2.1. GIS Consultant, Masterplan for Bundelkhand Industrial Development Authority (BIDA), Jhansi, Uttar Pradesh

BIDA is in the process of establishing an industrial township on the outskirts of city of Jhansi. The consultant was part of the Surbana Jurong team which was hired to create the Masterplan for the area. The work involved supervising spatial data collection, verifying drone survey data and conducting GIS based site suitability analysis.

1.3. Sambhaav Trust, Ahmedabad

1.3.1. Honorary Co-Principal Investigator, Documenting the social and geographical dimensions of the endangered art and practice of making hand-made deep artesian wells and shallow percolation wells in the Thar desert, The British Museum's Endangered Material Knowledge Program (EMKP) (October 2023 - September 2024)

In this year-long research project, funded by the British Museum, the honorary co-principal investigator aims to spatially document traditional structures of rainwater harvesting,

prevalent in the Thar Desert in Rajasthan, India. Over generations, the knowledge of local geology, topography and hydrogeology has evolved into various socio-cultural traditions and a multi-tiered water, pasture and food management system that is unique to the people of this region. The project explores the vast depths of traditional wisdom and knowledge systems related to shallow and deep well-making named 'rejwani beri' and 'pataali kuan', respectively, in the Jaisalmer District of Rajasthan.

1.4. University of Sussex – Jawaharlal Nehru University – University of Wuhan Research Collaborative

1.4.1. Urban Planning/GIS Consultant, Inclusive Green Infrastructure for Urban Well-being (January 2020 - March 2022)

This British Academy funded project examined green infrastructure (GI) in peri-urban India (Ghaziabad, National Capital Region) and China (Wuhan), with an emphasis on agriculture and its role in the livelihoods and health of urban and peri-urban residents. The project team developed a web-application with land use mapping and scenario building capabilities to explore the neglected impacts of mainstream development trajectories on peri-urban GI, and to support dialogue on the potential to preserve GIs and their ecosystem service benefits as urbanization proceeds. The method employed deep learning techniques to classify very-high resolution google earth imagery and to interpret formal and informal landscape features over time and analyze the implications of infrastructure interactions on diverse livelihoods. The mapping team also created story maps to link information on the lived experiences, diverse perspectives, and future aspirations of affected communities to the landscape mapping tools.

1.5. Sustainable Environment and Ecological Development Society ('SEEDS'), New Delhi

1.5.1. GIS Consultant, Artificial Intelligence for Humanitarian Action: Disaster Forecasting and Planning (March 2020 - February 2021)

This Microsoft Humanitarian Grant project envisaged 'hyper-localize' response to disasters and aimed to change the way neighborhoods use disaster related information for making critical decisions. With Puri and Mumbai in India as case cities, the consultant provided technical assistance to the project team by preparing training data as well developing risk scores which ultimately fed into a Machine Learning model for neighborhood-specific disaster alerts and assessed risks right down to the dwelling unit level.

1.5.2. GIS Consultant, DFID – Start Network Disasters and Emergencies Preparedness Program (DEPP) Labs (December 2017 – May 2018)

In an effort to understand the spatial patterns of disasters that occurred between the years 2000 and 2017 in India, Bangladesh, Nepal and Myanmar, the consultant provided technical support to SEEDS in mapping disaster related data for all these countries and create thematic maps that provided meaningful insights into the pattern of disasters. The project was a collaborative effort between SEEDS and Centre for Research on the Epidemiology of Disasters (CRED), University of Louvain, Belgium.

1.5.3. GIS Consultant, Safe School Program (May 2017 – August 2017)

SEEDS, with support from Honeywell Foundation launched 'Safe School Program' to make schools - exposed to multiple hazards in Delhi - safer through a comprehensive school safety approach. The program investigated various aspects of disaster

management planning, assessment of hazards, training and capacity building of teachers, students and school administration and carrying out mitigation measures for school safety.

1.6. Centre for Regional and Urban Excellence ('CURE'), New Delhi

1.6.1. GIS Consultant (March 2019 - March 2020)

CURE has been supporting various Urban Local Bodies across India by developing online spatial analysis tools to improve urban planning and management. The consultant was responsible for conceptualizing these tools, creating, and testing working models as well as preparing a manual explaining the working of these tools for the municipal functionaries. These were eventually uploaded onto a web-based platform called 'URBGOV', which in 2022 was awarded the 'Dubai International Award for Best Practices 2022' in the Urban Infrastructure Planning and Management Category.

1.6.2. Urban Planning/GIS Consultant, Slum GIS for Agra (July 2011 – April 2014)

CURE has been supporting the Municipal Corporation of Agra to create a vision plan for a slum free city. The consultant was responsible for creating a spatial database of all the 400 slums of the city, to analyze the patterns of land ownership, housing conditions, infrastructure, and livelihoods. The consultant also prepared an inclusive development strategy focused on water and sanitation management for one of the slum-dominated wards (No. 43) in the city.

1.6.3. GIS Expert, Rajiv Awas Yojna (RAY) Technical Cell, Urban Development and Housing Department, Government of Sikkim, Gangtok (February 2012 – February 2013)

CURE was appointed as the Project Management Unit (PMU) by the Urban Development and Housing Department (UDHD) of the Government of Sikkim to facilitate the implementation of RAY in Gangtok. The consultant was part of the PMU as the GIS expert for overall supervision of geo-spatial mapping of Gangtok.

1.6.4. Urban Expert, Implementing RAY for making Indian cities slum free: Issues in accessing land for supply of affordable housing, Raipur (May 2011 - July 2011)

Based on a study of two cities - Raipur and Tirupati - the consultant examined the challenges in providing housing for all with legal property titles under RAY. The consultant provided technical assistance in collecting data, interviewing stakeholders, analyzing various planning related documents and spatially analyzing squatter settlements to deepen the understanding of land issues for creating affordable and sustainable housing for slum dwellers under RAY.

1.7. Aga Khan Trust for Culture ('AKTC'), New Delhi

1.7.1. Park Information Management System (January 2019 – August 2019)

Having opened Sunder Nursery as a public park in February 2018, AKTC was interested in assessing its impact on the surrounding areas. The Consultant assisted AKTC in conducting primary surveys and visualizing the information through thematic maps for Sunder Nursery neighborhoods.

1.7.2. AKTC Project Site Tree GIS (August 2015 – August 2016), (February 2012 –

January 2013)

The Consultant prepared a tree database for Sundar Nursery – a 65-acre public nursery located near the Humayun's Tomb, a UNESCO World Heritage Site. The work involved structuring the existing database, updating it through physical surveys and creating thematic maps. This exercise was extended to the entire AKTC project site i.e., Humayun's Tomb, Batashewala Complex and Hazrat Nizamuddin Basti in the next phase. In addition, this phase also explored desktop and web-based applications for information dissemination.

1.7.3. Hazrat Nizamuddin Basti GIS (May 2014 – April 2015), (May 2013 – December 2013)

As part of AKTC's Humayun's Tomb – Sundar Nursery – Hazrat Nizamuddin Basti Urban Renewal Program, the Consultant undertook the task of creating a socio-economic GIS to visualize various development indicators for Kot Mohalla, one of the neighborhoods of Nizamuddin Basti. This work was extended to the entire Nizamuddin Basti during the next phase.

1.8. Centre for Science and Environment ('CSE'), New Delhi

1.8.1. Urban Planning/GIS Consultant, Support to National Mission for Clean Ganga (NMCG) – Preparation of City Sanitation Plans (CSPs) for eight cities in the Ganga Basin (August 2016 – October 2018)

In its effort to rejuvenate Ganga, CSE has been supporting NMCG by assisting eight cities across Uttar Pradesh, Bihar and Bengal in preparing CSPs. The consultant was responsible for providing technical assistance to CSE by creating spatial databases and thematic maps for all these cities.

1.9. Deutsche Gesellschaft für Internationale Zusammenarbeit ('GIZ') GMBH, New Delhi

1.9.1. Data Management Consultant for Support to Ganga Rejuvenation (September 2016 – December 2017)

As part of GIZ's support to NMCG to rejuvenate Ganga, the consultant assessed the existing technical capacities and developed a set of recommendations to set up an institutional SDI (Spatial Data Infrastructure) in form of 'Ganga Knowledge Centre (GKC) within NMCG.

1.9.2. GIS Consultant for Support to the National Urban Sanitation Policy – II (SNUSP – II) (April 2016 – November 2016)

As part of GIZ's support to Kochi Municipal Corporation in implementing non-conventional wastewater systems, the consultant provided technical assistance in designing a GIS-based water discharge register for 800 households of the city as well as prepare a SoP for planning and implementing similar sanitation systems.

1.9.3. Data Management Consultant for Advice and Knowledge Exchange on River Basin Management (October 2015 – January 2016)

As part of GIZ's support to NMCG the consultant was assigned the task of mining, cleaning, and streamlining the spatial data on Ganga basin available with NMCG. The

consultant also prepared a Standard Operating Procedure to facilitate NMCG and its State level counterparts for future spatial data collection and storage endeavors.

1.9.4. Data Management Consultant for City Sanitation Plan (CSP) implementation in Kochi, Raipur, Shimla and Tirupati (October 2013 – March 2014)

GIZ since 2011 has been actively supporting the aforementioned cities in planning and implementing the CSPs. The consultant was assigned the task of collating and documenting sanitation related spatial/non-spatial datasets in these cities, analyzing them for gaps and streamlining them for future use.

1.9.5. GIS/Urban Planning Consultant for Rajiv Awas Yojna (RAY) and City Sanitation Plan (CSP) implementation in Raipur and Tirupati (May 2012 – April 2013)

RAY for slum dwellers and the urban poor was a mission mode program launched by the Government of India under the Ministry of Housing and Poverty Alleviation. GIZ worked with local governments, inter alia, the aforementioned cities and their respective states to achieve goals set under RAY. The consultant supported GIZ as a data management expert and collated existing spatial and non-spatial data in these cities, assessed them for their content, quality, and level of detail vis-à-vis requirements of RAY, and supported GIZ in other background research related to urban poverty.

1.9.6. Resource person for conceptualizing, planning and designing a four-day long workshop including a series of public events on the river Yamuna – ‘Yamuna Katha’ - in Delhi between 11th and 15th October 2011 (August 2011 – October 2011)

Yamuna Katha was a collaborative effort to understand the river-city dyad; the relationship between the river, the people, the flora and the fauna, bringing to a common zone, representatives of various stakeholders directly or indirectly connected to the river. The core group consisted of a river specialist, two educationists, a social scientist, a historian, a hathi wala (elephant keeper), a fisherman and his family, and a farmer. They undertook travels to the banks to reflect on the river collectively. Each day of the journey brought in new ‘passengers’ – people who accompanied the core group only for that day – and enriched the journey with their perspectives. Together they created a narrative to explore a common future for the river.

1.9.7. GIS Consultant, Making Community Toilet Complexes Work – A step towards open defecation free Delhi (July 2010 - April 2011)

GIZ-ASEM (Advisory Services in Environment Management), aided Indcare Trust in developing an efficient business model for operating and maintaining 439 public toilets in the city. This included building a comprehensive spatial database of the toilets, mapping other relevant urban layers such as municipal wards, master plan and zonal plans and development of a management tool kit to improve service delivery.

1.9.8. Consultant in Promoting Tourism, Creating Livelihoods: A Toolkit for Cleaning the Ghats of Varanasi (May 2010 - July 2010)

As part of GIZ-ASEM’s support to urban local bodies in preparing CSPs a simultaneous approach of developing local area interventions for improving sanitation and solid waste management was attempted in Varanasi. This intervention looked at improving sanitary conditions along a select stretch of the ghats by exploring the link between sanitation, livelihoods, and tourism. The tasks included documentation of these three aspects; their archival research and mapping.

1.10. Forum for Organized Resource Conservation and Enhancement ('FORCE') - GIZ

1.10.1. GIS Consultant, Sanitation beyond Sewers, Waterbodies and their linkages with Informal Settlements (December 2014 - June 2015)

In a bid to explore inter-linkages between urban sanitation, built environment, and water management, the consultant was responsible for mapping the waterbodies and resettlement colonies in Delhi as part of this collaborative project between FORCE and GIZ's Indo-German Environment Partnership (IGEP).

2. ACADEMIC EXPERIENCE

2.1. Education

- 2.1.1. PhD., (Ongoing) 'Modelling Cultural Heritage for Urban Planning: Creating Digital Twin of Shahjahanabad / Old Delhi', Department of Urban and Regional Planning and Geo-information Management, Faculty ITC, University of Twente, the Netherlands.
- 2.1.2. M.Sc., Urban Planning and Management, International Institute of Geo-Information Science and Earth Observation (ITC), Enschede, the Netherlands (2009).
- 2.1.3. M. Plan., Urban Planning, (with Distinction), School of Planning and Architecture, New Delhi (2006).
- 2.1.4. M.A., Geography, Department of Geography, Delhi School of Economics, University of Delhi, (2004) – Rank 1, University Gold Medal.
- 2.1.5. B.A. (H), Geography, Kirorimal College, University of Delhi, (2002) – Rank 1, University Gold Medal.

2.2. Short Courses

- 2.2.1. Certificate course on 'Digital Documentation of Built Heritage Batch – 02, CEPT University, Ahmedabad, July 2023
- 2.2.2. Certificate course '3D Landscapes' National Institute of Advanced Studies, Bangalore, March 2022
- 2.2.3. Online certificate course 'Urban Heritage Conservation: Issues and Challenges (Sardar Vallabh Bhai Patel National Institute of Technology, Surat, September 2021)

2.3. Teaching Experience

- 2.3.1. Guest Faculty. Kamla Raheja Vidyanidhi Institute for Architecture and

Environment Studies (April – June 2020) – Urban Design Studio

- 2.3.2. **Guest Faculty, TERI School of Advanced Studies (September – December 2022) - Fundamentals of Remote Sensing and GIS for Urban Development**
- 2.3.3. **Course Creation and Faculty, National Institute of Defense Estates Management (NIDEM) (January 2022 to January 2023)**
- 2.3.4. **Visiting Faculty, School of Planning and Architecture, Bhopal (September 2021 to September 2022) – Fundamental of GIS for Landscape Architecture**
- 2.3.5. **Visiting Faculty, School of Planning and Architecture, New Delhi (April 2009 – December 2013, 2020 to present)**

Subjects Taught

- a. **Advanced GIS:** M. Plan (Regional), Winter Semesters 2025, 2024, 2023, 2022 and 2021.
- b. **GIS Advanced (Heritage Application):** M. Arch (Conservation), Winter Semesters 2025, 2024, 2023, 2022, 2021 and 2020.
- c. **Spatial Data Infrastructure:** M. Plan (Regional), Autumn Semesters 2025 (ongoing), 2024, 2023, 2022, 2021, 2020, 2013, 2012 and 2011.
- d. **Fundamentals of GIS:** M. Plan (Integrated), Autumn Semesters 2025 (ongoing), 2024, 2023, 2022, 2011 and 2010.
- e. **Fundamentals of GIS:** M. Arch (Conservation), Autumn Semesters 2025 (ongoing), 2024, 2023, 2022, 2021, 2020 and 2009.
- f. **Fundamentals of GIS:** M. Plan (Housing), Autumn Semesters 2025 (ongoing), 2024, 2013, 2011, and Winter Semesters 2024 and 2012.
- g. **Planning Information Systems:** B. Plan, Autumn Semester 2013.
- h. **M. Plan (Regional) Studio:** Winter Semesters 2010 and 2011 and Autumn Semesters 2009, 2010, 2013 and 2020.
- i. **Computer Applications in Architecture:** B. Arch, Winter Semester 2024 and Autumn Semester, 2023.

2.4. Research Guidance

- 2.4.1. Supervisor, M. Plan. (Regional), Department of Regional Planning, School of Planning and Architecture, Delhi (2024) Mondal, A., ***‘Application of Geospatial Artificial Intelligence for Wetland Conservation: Case of Bhoj Wetland, Bhopal District, M.P.’***
- 2.4.2. Advisor, M.Sc. Spatial Engineering, University of Twente, the Netherlands (2022) Rajan, V., ***‘Evaluating Morphological Continuity of Shahjahanabad’***.
- 2.4.3. Member, Ph.D. Advisory Committee, Department of Social Work, University of Delhi (2011) Jamil, G., ***‘Positionality, Spatiality and Identity: An Urban Study of Muslim Community in Delhi’***. (Published as ***‘Accumulation by Segregation: Muslim Localities in Delhi’***, Oxford University Press, 2017).
- 2.4.4. Co-supervision of M. Planning (Regional Planning) Thesis, SPA, New Delhi

(2010) Yadav, S., '*Mapping the movement, Mapping the Skills: Life of Construction Workers in Delhi and CNCR*'.

2.5. Training Programs Conducted

- 2.5.1. **Hands-on with QGIS:** As part of the **One Week Faculty and Professional Development Program on Application of Geo-informatics for Planning**, conducted by Department of Regional Planning, SPA, Delhi (January 2025).
- 2.5.2. **Mapping Basics – Geo-information Technology for Urban Design:** 4-day training program for Department of Architecture, Siddhganga Institute of Technology, Tumkur (January 2025, and December 2023).
- 2.5.3. **Role of Geo-Informatics in Mapping Estate Boundaries:** 5-day training program for IDES officers (January 2023, June 2022, and February 2022).
- 2.5.4. **Role of Geo-Informatics in Mapping Estate Boundaries:** 5-day training program for Sub-Divisional Officers (SDOs) of Indian Defense Estates Services (IDES) (September 2022, and April 2022).
- 2.5.5. **Geo-Informatics for Mapping Cultural Heritage:** 5-day GIS training program as part of '**6 weeks summer internship program: Mapping of Heritage Resources of Shahjahanabad**', Indira Gandhi Delhi Technical University for Women, June 2022.
- 2.5.6. **Role of Geo-Informatics in Mapping Estate Boundaries:** 5-day training program for Computer Programmers of Indian Defense Estates Services (IDES) (May 2022).
- 2.5.7. **Mapping of Estates' boundaries using Remote Sensing and GIS:** 2-week online training program for SDOs of IDES conducted along with National Remote Sensing Centre (NRSC), Hyderabad (January 2022).
- 2.5.8. **Basic and Intermediate QGIS:** As part of the **Faculty Development Program / Quality Improvement Program on Geo-informatics Application in Planning**, conducted by Department of Regional Planning, SPA, Delhi (December 2020).
- 2.5.9. **Basics of GIS and Remote Sensing for Water and Sanitation:** Online training conducted for CSE (October - November 2020).
- 2.5.10. **Mapping Basics Online:** Introduction to GIS & Remote Sensing using open-source tools (June 2020).
- 2.5.11. **Introduction to GIS & Remote Sensing:** Introductory GIS & Remote Sensing training as part of '**Green Skill Development Program**' (GSDP) Course '**Green Belt development for Industries**' conducted by SPA-ENVIS Resource Partner (March 2020).
- 2.5.12. **Mapping Basics:** Introduction to GIS and Remote Sensing using open-source

tools (February – March 2020).

2.5.13. **Introduction to GIS & Remote Sensing:** Introductory GIS & Remote Sensing training as part of ‘**Green Skill Development Program**’ (GSDP) Course ‘**Valuation of Ecosystem Services and Green GDP**’ conducted by SPA-ENVIS Resource Partner (February 2020).

2.5.14. **The Science of Where: An Introduction to GIS:** Training conducted for the Urban Team, The World Bank (August 2019).

2.5.15. **GIS for Urban Water Management:** GIS Training conducted as part of CSE’s **International Training on Tools and Approaches for Citywide Water and Sanitation Management** (July 2018).

2.5.16. **Introduction to GIS:** Training conducted for the Water Team, CSE, (April 2018).

3. **TALKS AND PRESENTATION**

3.1. ***‘The Hill, Forest and a River: The Story of a City’***, Talk delivered at the Department of Geography, Miranda House, University of Delhi (October 2023).

3.2. ***‘Yamuna ki Dilli’***, Speaker in a round table discussion on ***‘Thanking the River: Meanderings in time and space’***, as part of **Nadi Utsav** organized by **Indira Gandhi National Centre for Arts (IGNCA)**, (September 2023).

3.3. ***‘Telling Stories through Digital Twins’*** Panelist in a panel discussion on ***‘Breaking Barriers: Integrating Arts & Allied Fields’*** in a multi-**disciplinary** symposium on Digital Creativity, Industry and Culture (DCIC), (August 2023).

3.4. ***‘Photogrammetric 3D Modelling of the Built Form’***, Presentation and hands-on session on photogrammetry in ***‘Use of Drones in the study of Urban Form’***, hybrid workshop SPA Delhi (August 2023).

3.5. ***‘The Last Gathering: A vivid portrait of life in the Red Fort’***, A book discussion on ***‘The Last Gathering’*** organized by Centre for Study of Developing Societies (CSDS) (September 2022).

3.6. ***‘Using Drones to create 2D/3D maps/models of Buildings and Neighborhoods’***: Presentation in ***‘Drones: Steering Way Forward for Architects and Planners’***, Online webinar SPA Delhi (August 2022).

3.7. ***‘Introduction to QGIS’***, as part of the ***‘Induction Training of the Sub-Divisional Officers (SDOs)’***, NIDEM (July 2022).

3.8. ***‘Modelling the Landscape of Sunder Nursery: A GIS Approach’***, An online talk delivered to Landscape Architecture Department, SPA Vijaywada (May 2022).

- 3.9. **'Modelling Cultural Heritage for Urban Planning: A Case of Shahjahanabad/Old Delhi'**, JURSE 2022 Online Lounge, Medellin, Colombia (February 2022).
- 3.10. **'Application of GIS Technology for Cultural Mapping: The Case of Havelis in Shahjahanabad'**, Sahapedia's #CultureForAll Online Conference on Cultural Mapping (September 2021).
- 3.11. **'Geographical Information Systems: Perspectives and Applications'**: Online presentation in **'ECO-logs 1.0 – Exploring Socio-ecological Resilience in the Global South'**, Kamla Raheja Vidyaniidhi Institute for Architecture and Environmental Studies, (March 2021).
- 3.12. **'Waterbodies and their Linkages with Resettlement Colonies and Informal Settlements'**: Presentation in the **'Online Roundtable on Sustainable Urban Infrastructure'**, GIZ (March 2021).
- 3.13. **'Data Integration and Management - Linking Datasets to GIS'**: Online webinar for the **'Puducherry Smart City Project'**, (June 2020).
- 3.14. **'Of Urban Planning and some Unplanned Narratives'**: 3rd Annual Environmental Studies Symposium, Department of Physical and Natural Sciences, FLAME University, Pune (January 2020).
- 3.15. **'Planning through Space and Time'**: **'Resilient Cities: A Landscape Approach'**, a workshop organized by the School of Planning and Architecture, Bhopal (October 2017).
- 3.16. **'Re-imagining Agra: Fluvial Geographies of Historic Cities'**: Paper read at the 7th World Archaeological Congress, Amman, Jordan (January 2013). (Co-authored with Ms. Shahena Khan, Visiting Faculty, Department of Architectural Conservation, SPA, New Delhi.)
- 3.17. **'Urban Development and Climate Change: A Case of Bangalore'**: Paper presented in **'Responding to Climate Change: UK-Indian Perspectives'**, SPA, New Delhi (August 2010).
- 3.18. **'Emerging Urban Regions and Regional Inequalities in India'**: Paper presented at the **'41st Annual Regional Science Conference'**, Bomdila, Arunachal Pradesh, (March 2010). (Co-authored with Prof. Dr. N. Sridharan, Director, SPA, Bhopal.)

4. SELECT PUBLICATIONS

- 4.1. Rajan, V., Koeva, M., Kuffer, M., Da Silva Mano, A., Mishra, S. **'Three-Dimensional Modelling of Past and Present Shahjahanabad through Multi-Temporal Remotely Sensed Data'** Remote Sensing. 15, 2924. <https://doi.org/10.3390/rs15112924> (July 2023).

- 4.2. Mishra, S., D'Agostino, G., Pfeffer, K., Koeva, M., Kuffer, M. '**Cultural Heritage and Historic Preservation: Creating a Digital Twin of Shahjahanabad**' available online from <https://theconversation.com/cultural-heritage-and-historic-preservation-creating-a-digital-twin-of-shahjahanabad-198814> (April 2023).
- 4.3. D'Agostino, G. and Mishra, S. '**Application of GIS Technology for Cultural Mapping: The Case of Havelis in Shahjahanabad**' available online from sahapedia.org (January 2022).
- 4.4. Mishra, S., Kuffer, M., Martinez J. and Pfeffer, K. '**An Exploration of Environmental Quality in the Context of Multiple Deprivation**' in Maarseveen v. M., Martinez, J., and Flacke, J. (ed.) '**GIS in Sustainable Urban Planning and Management**', Taylor and Francis (December 2018).
- 4.5. Khan, S. and Mishra, S. '**Re-imagining Agra: Fluvial Geographies of Historic Cities**', '**Journal of Landscape Architecture**', (November 2016).
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5. TRANSLATIONS

- a. '**Fani Baqi**', Shamsur Rahman Faruqi, Urdu to Hindi translation of a story, Setu Prakashan (January 2024).
- b. '**Dilli Jo Ek Shahr Tha**', Rajendra Lal Handa, Urdu to Hindi translation of a book on Delhi, SGT University (July 2022).
- c. '**Akhiri Pahar ki Dastak**', Professor Shamim Hanfi, Urdu to Hindi translation of ghazals, Setu Prakashan – Raza Foundation (June 2022).
- d. '**Samkaleen Urdu Sahitya: Kuchh Baatein, Kuchh Tasveerein, Premchand se Surendra Prakash tak**', Professor Shamim Hanfi, Urdu to Hindi translation of essays written on contemporary Urdu prose writers, Rajkamal Prakashan – Raza Foundation, (March 2021).
- e. '**Fiction ki Sachchaiyan**', Shamsur Rahman Faruqi, Urdu to Hindi translation, in '**Samas**', (March 2019).
- f. '**Humsafaron ke Darmiyan**', Professor Shamim Hanfi, Urdu to Hindi translation of essays written on contemporary Urdu poets, Rajkamal Prakashan – Raza Foundation. (January 2019)
- g. '**What is Anarchism? Part Three**', Bhagat Singh, Hindi to English translation of an essay, Sage-Yoda, (October 2018).
- h. '**Dilli Tha Jiska Naam**', Intizar Hussain, Urdu to Hindi translation of a book on Delhi, Sage-Yoda (May 2016).
- i. '**Kahin Nahin Wahin**'. English to Hindi translation of an essay on Ashok Vajpeyi's poetry by Arundhati Subramaniam in '**Jagah**', Surya Prakashan Mandir, (2015).