

**DR. SWARNIMA SINGH**

**BA (Hons.), MA, MPhil, PhD**

**Personal Information**

Date of Birth: 4<sup>th</sup> October, 1983

Gender: Female

Marital status: Married

Nationality:

Indian

**Contact Information**

Address: H.No.186F, Bindoo Shahi Niwas, Bilandpur New Colony,  
Gorakhpur– 273001 State – Uttar Pradesh

Phone Number: (+91) 9910146475

Email: [swarnima.singh@gmail.com](mailto:swarnima.singh@gmail.com)

**FIELDS OF INTEREST**

Climate Change, climate change modeling, Livelihood Security, Geographic Information System, LiDAR, Micro wave- Remote Sensing, carbon foot printing, CDM, REDD (Reducing emission from deforestation and degradation), disaster vulnerability/ risk assessment.

**ACADEMIC BACKGROUND**

**PhD**

(September '11- February 15)

Thesis Topic “**Climate Change And Livelihood Security in Kangra District Himachal Pradesh**”, India.

The study pivots around establishing climate change scenario(both BAU and A2B2) and micro level sustainable livelihood security framework (MSLF) on the basis of RCM model and field work.

**M. Phil**

(August '05- August '07)

Dissertation Swivel around “**Disaster Vulnerability and Mitigation Plan for Noida and Greater Noida**”, India.

- First rank holder, in Department of Geography, University of Delhi
- The M.Phil Dissertation has been widely appreciated by Ministry of Urban Development and Noida Development Authority, India.

**M. A.: Geography**

(July '03 – June '05)

Department of Geography, Delhi School of Economics, University of Delhi,

- Master’s dissertation on “**Impact of Transport on Delhi’s Environment**” under supervision of Dr. R. B. Singh.
- Third rank in Delhi School of Economics, department of Geography, University of Delhi

**B.A (HONS.): Geography**  
(July '99 – June '02)  
**Diploma in Disaster**  
**Management (2004)**

Miranda House, University of Delhi, India.  
First Class  
Disaster Management and Mitigation strategies, GIS modeling  
and Risk Management, Indira Gandhi Open University, Delhi,  
First class

## PROFESSIONAL EXPERIENCE

- i. Assistant Professor, (July, 2018-until now), Department of Geography, DDU Gorakhpur University, Gorakhpur, India-273009.
- ii. Assistant Professor, (January 2012-May 2018), Shaheed Bhagat Singh College, University of Delhi, New Delhi- 110007.
- iii. Research Associate at World Wide Fund for Nature (WWF-India),(July,2010–Sept 2010), Prof (Dr.)T.R. Manoharan, Director of Forestry Division,172-B,Secretariat,Lodhi Road, New Delhi, India
- iv. Research Assistant (August, 2007 – June 2009), Prof (Dr.) N.H. Ravindranath (Chairman of Centre for Sustainable Technologies, and Assistant Professor of Centre for Ecological Sciences, Indian Institute of Science, Bangalore

Research pivots around issues related to:

- a. Geographic Information System,
- b. Climate change vulnerability modeling,
- c. Reducing Emission from Deforestation and Degradation Plus (REDD+),
- d. developing decision support system together with Global Circulation and Regional Circulation modeling (GCM & RCM) for developing mitigation and adaptation synergy.
- e. Land use land cover change impact modeling
- f. Global Forest Trade Network (GFTN): forestry certification
- g. GEF -5, STAP, and Global Anthropogenic Response to Climate change (CICERO`s).
- h. India`s Second National Communications to the United Nation Framework Convention on Climate Change (NATCOM II)
- v. Research Fellow in Delhi School of Economics, Delhi University, under Special Assistantship Programme of UGC (Delhi 28<sup>th</sup> September – 30<sup>th</sup> March, 2007) Prof (Dr.) H.Ramachandran.

## LIFE MEMBER OF ACADEMIC BODIES

- I. Indian Society of Remote Sensing (ISRS)
- II. Indian Institute of Geomorphologists (IGI)
- III. National Association of Geographers, India (NAGI)
- IV. Association of Geographers-India

## SELECTED AWARD

October, 2012	<b>Meritorious student scholarship UGC- SAP, University of Delhi</b>
July, 2010	<b>Japanese Government Scholarship Award to Study Abroad for Outstanding Students</b>
June, 2010	<b>Chinese Government Scholarship Award to Indian National for Outstanding Students Abroad</b>
September,2006	<b>University Grant Commission – Special Assistantship Programme Award (UGC-SAP), September 2006 to March, 2007. New Delhi, India</b>
December,2005	<b>University Grant Commission India, UGC- Lecturer Eligibility</b>

**PUBLICATIONS AND BOOK REVIEWS**

<b>Book Authored</b>	Singh, S. (2021) Simulating Climate Change and Livelihood Security: A Western Himalayan Experience, India. Springer Nature (Switzerland), ISBN: 978-981-16-4648-5
<b>Journal Publications</b>	<ol style="list-style-type: none"> <li>1. Singh, S. (2023) Machine Learning and Quantum GIS for Flood Inundation Mapping of Gorakhpur District using Sentinel-1 and Sentinel-2 Radar Interferometry, The Deccan Geographer Journal, vol.61, pp 1-10,</li> <li>2. Singh, S. (2023) Amalgamating Fuzzy Cognitive Mapping (FCM) and machine learning to analyze climatic variability, Journal of Global Resources, pp.150-159, volume-09, ISSN: 2455-2445 (E) / 2395-3160 (P)</li> <li>3. Singh, S. (2021). Assessing Land Surface Temperature from TIRS Data and Its Correlation with Land Surface Indices in Gorakhpur City, The Geographer Journal, 68 , 1-10, ISSN: 00720909</li> <li>4. Singh, S. (2020). Integrating Prediction Model through Machine Learning and Fuzzy Cognitive Mapping in Climate Change Analysis, The Geographer pp. 98-112, Vol 67, No.2, July, 2020 ISSN: 00720909 (P) 09759522 (E)</li> <li>5. Singh, S. (2018). Fuzzy Cognitive Mapping in Analyzing Climate Variability Impact on Livelihood Vulnerability: A Case Study of Western Himalayan District, SJSP, pp. 11-23, vol. 2, No. 2, Delhi.</li> <li>6. Singh, P. and Singh, S. (2018). Exploring Singapore's Green Mobility Preparedness, SJSP, pp. 11-23, vol. 2, No. 1, Delhi.</li> <li>7. Singh, P. and Singh, S. (2016). Public Understanding and Response to Climate Change among Delhi's Youth, pp. 4-10 International Journal of Social Sciences Tomorrow, SPIRI publication vol 3, issue 4. ISSN: 2277-6168. UGC JOURNAL NO. 62554.</li> <li>8. Singh, R.B. and Singh, S. (2011). Rapid Urbanization and Induced Flood Risk in Noida, India, Asian Geographer Journal, Vol. 28, Issue 2, pp.147-69. issn-1022-5706. ugc s.no. 50 journal no. 8761.</li> <li>9. Singh, S. (2010). GIS Application in Urban Heat Island: A Crusading Anthropogenic Driver to Climate Change. Urban India Journal, Vol. 30, pp. 74-92, India Habitat Center, New Delhi, India. ISSN- 09709045. UGC JOURNAL NO. 49136</li> <li>10. Ravindranath, N.H. and Singh S. (2008). Climate Change and Sustainable Bio-fuel Production in Africa. Competence Platform on Energy Crops and Agro forestry Systems – Africa, issue no. 3, ISSN- 080922.</li> </ol>

Book Chapter	Bibliography
	<ol style="list-style-type: none"> <li>1. Singh, S. (2021). Climate Change Modeling for Ecosystem Services in Western Himalayan District: A Methodological Approach Towards Sustainability Science, PP.487-506 in: Resource Management, Sustainable Development and Governance: Indian and International Perspectives, Springer Nature (Switzerland) ISBN 978-3-030-85838-4</li> <li>2. Singh, S. (2018). Towards New Paradigm of Smart India: A Case of Amaravati City on India's Singapore. In Sharma, V.R. and Verma C, (Eds.) <i>Making Cities Resilient</i>, pp 90-101, Hong Kong, Springer publication, ISBN-978-319- 28975-4.</li> <li>3. Singh, S. (2017) Remote Sensing Assessment of Carbon Fluxes and Climate Change. In B. Thakur et al., (Eds.) <i>Regional development: theory and practice: Professor R.P. Misra felicitation volumes</i>, pp 299-317, vol 2, New Delhi (India), Concept Publishing Company Pvt. Ltd, ISBN 9789351252047.</li> <li>4. Singh, R.B Singh, S. (2016) Assessing Climate Change Signals in Western Himalayan District Using PRESIS Data Model. In Singh, R.B. ans Mal Suraj (Eds.), <i>Climate Change, Glacier Response and Vegetation Dynamics in Himalaya</i>, pp 103-115, Netherlands, Springer publication, ISBN-978-319-28975-5.</li> <li>5. Singh, S. (2017) Indian Climate Policy and Ideology: Beyond Development. In B. Thakur et al., (Eds.) <i>Regional development: theory and practice: Professor R.P. Misra felicitation volumes</i>, pp.274-282, vol 4, New Delhi (India), Concept Publishing Company Pvt. Ltd, ISBN 9789351252061.</li> <li>6. Singh, S. (2017) Climate Change Policy of India. In B. Thakur et al., (Eds.) <i>Regional development: theory and practice: Professor R.P. Misra felicitation volumes</i>, pp. 283-298, vol 4, New Delhi (India), Concept Publishing Company Pvt. Ltd, ISBN 9789351252061.</li> <li>7. Singh, P. and Singh, S. (2016) Anthropogenic Climate Change and Critical Assessments of Contemporary Climate Policy Discourse, Raman, V.A.V. (Ed.) <i>Geoanthropogenic Environment: An Appraisal</i>, Delhi, pp. 13–31, A.K. Publications, ISBN: 978-93-85022-73-9.</li> <li>8. Singh, S. and Singh, P. (2015). Mapping Environment for Capacity Building to Use ICT for Community Development: A GIS Application in Jangpura, New Delhi. In VR Sharma (Ed) <i>Contemporary Environmental Issues and Management</i>, pp. 85-102, New Delhi (India), Research India Press, ISBN:978-93517-10356.</li> <li>9. Singh, R.B Singh, S. (2014). Human induced biome and livelihood security. In Singh R.B., Hietala R. (Eds.) <i>Livelihood security of Northwestern Himalaya: Case studies from changing socio-economic environments in Himachal Pradesh</i>, pp- 53-66, Netherlands, Springer publication,. ISBN: 978-4-431-54867-6</li> <li>10. Singh, S. (2014). Impact of Climate Change on South Asian Forests. In R. Thakur, Inder Jeet, R.K. Abhay and S. Thakur</li> </ol>

	<p>(Eds.) <i>Resources and Regional Development in India</i>, pp. 358-375, Jaipur, Rawat Publications, <b>ISBN: 978-81-316-0641-4</b>.</p> <p>11. Singh, R.B and Singh, S. (2013). Anthro Biomes- Integrated Modeling of Global Climate Change. In 3<sup>rd</sup> International Geographical Congress (IGC) Conference <i>on Sustainable Natural Resource Management (CWRDM)</i>, Allied Publishers Pvt. Ltd. New Delhi.6-8 May, 2011, pp- 215-221. ISBN: 978-818424-774-9.</p> <p>12. Singh, S. (2011). Anthropogenic Simulation to Climate Change: Integration of Cellular Automata, GIS and Remote Sensing in Village Information System (VIS). In Subhash Anand (Ed.), <i>Eco Development Global Perspectives</i>, pp. 151-165, New Delhi, Research India Press, <b>ISBN-978-81-8931-46-3</b>.</p> <p>13. Singh, R.B. and Singh, S. (2007). Challenges of Flood Disaster Management: A case Study Noida: A GIS Approach. In Singh, J. (Ed.), <i>Disaster Management: Future Challenges and Opportunities</i>, pp.15-30, New Delhi, I.K. International Publishing House, <b>ISBN 97881-89866-46-4</b>.</p> <p>14. Singh, R.B. and Singh, S. (2007).Temporal Transport Hazard Dynamics: A Case Study of Delhi. In Singh, J. (Ed.), <i>Disaster Management: Future Challenges and Opportunities</i>, pp. 95-112, New Delhi, I.K. International Publishing House, <b>ISBN 97881-89866-46-4</b>.</p>
<p><b>Invited Lectures/ Conferences</b></p>	<ol style="list-style-type: none"> <li>1. Singh, S. (2024). Advanced Flood Inundation Mapping Of Gorakhpur District: Harnessing Machine Learning, Quantum Gis, And Sentinel Radar Data Fusion, International Conference on 'Climate Change, Disaster Management, and Environmental Sustainability' organized by Department of Geography, Faculty of Sciences, Jamia Millia Islamia, New Delhi during February 21 – 22, 2024.</li> <li>2. Singh, S. (2024). Machine Learning and Quantum GIS for Future earth, national Conference on “Stress of Urban Expansion and Disasters in Uttarakhand” organised by D.D. College, Dehradun on January 5-6, 2024.</li> <li>3. Singh, S. (2022). Geomorphic Signals to Natural and Human disturbances in Trans- Himalaya Catchment: A Case of Lower Pin Valley, H.P., India International, 2022-12-25, IGU- Mahendragarh</li> <li>4. Singh, S. (2022). Big Data Application in Managing 13th Sustainable Development Goal: Climate and Climate Change Scenario Modeling International, 2022-03-16, Science Council of Asia</li> <li>5. Singh, S. (2022). Big Data and Regional Response to Climate Change through MAGPie at lower Pin Valley, Himachal Pradesh, Dept. of Geography, Central University of Haryana, IGU Mahendragarh, 2022-12-24</li> <li>6. Singh, S. (2022). A Geo-spatial study of Urban Heat Island phenomenon in Lucknow district, International, 2022-12-06, Centre for Disaster Management Studies, Shaheed Bhagat Singh College</li> </ol>

<p><b>Editor</b></p>	<ol style="list-style-type: none"> <li>7. Singh, S. (2022). Climate and Climate Change Scenario Modeling: A Western Himalayan Experience, International, 2022-07-20, 15 UGI-International Geographical Union</li> <li>8. Singh, S. (2021). India's Water Future 2020 to 2050, International, 2021-12-13, International Conference on Water, Food and Nutrition Security for Health and Wellbeing, Shaheed Bhagat Singh College</li> <li>9. Singh, S. (2021). Big Data and Climate Change, International, 2021-11-23, International Geographical Union (IGU): Geography and Sustainability</li> <li>10. Singh, S. (2021). Big Data and Climate Change Analysis International, 2021-12-03 33rd Conference on International Institute of Geomorphologists- University of Allahabad</li> <li>11. Singh, S. (2020). Climate Scenario Modeling for Impact Analysis on Ecosystem Services in Western Himalayan District of India, International, 2020-12-19, International Geographical Union, Dept. of Geography, Faculty of Earth Sciences, Udaipur</li> <li>12. Singh, S. (2018). Ecosystem Services and Climate Change Scenario Modelling in Himalaya, International, 2018-02-06, SBSC, University of Delhi, Livable Cities Conference</li> <li>13. Singh, S. (2018). Downscaling Climate Model for Regional Prediction of Climate variability on Western Himalaya, International Conference on Livable Cities: Transforming Sustainability and its Challenges. 5 to 7<sup>th</sup> February, 2018 at Conference Centre, University of Delhi.</li> <li>14. Singh, S. (2016). Climate Change and Extreme Heat Waves Events: A Vulnerability Analysis of Urban Population in Indian Cities, International (within country), 2016-03-19, Shaheed Bhagat Singh College, University of Delhi, 9th IGU</li> <li>15. Singh, S. (2017). Spatial Statistical Analysis &amp; Simulation of UHI in Uttar Pradesh, Making Cities Resilient Conference, 2017-02-03,</li> <li>16. Singh, S. (2018). Regional Circulation Modeling on Ecosystem Services in Western Himalayan District, India. National Conference on Climate Change Conclave: Climate Actions for India's Commitment to Combat Climate Change, 21st- 22nd April, 2018 at Conference Centre, University of Delhi.</li> <li>17. Singh, S. (2017). Climatic Variability and livelihood Security in Kangra District, H.P. International Conference on Making Cities Resilient, 3rd and 4<sup>th</sup> February, 2017 University of Delhi,</li> <li>18. Singh, S. (2013). Signals of Climatic Change in Kangra District, H.P. International Conference, University of Delhi, paper, 35th Indian Geography Congress, Chennai, 12-14 December, 2013 Tamil Nadu pp. 115</li> <li>19. Singh, S. (2013). Conflicting Signals of Climatic Change in Kangra District, H.P. Conference paper, 35th Indian Geography Congress, Chennai, 12-14 December, 2013 Tamil Nadu pp. 115</li> <li>20. Singh, R.B and Singh, S. (2013). Anthro Biomes- Integrated Global Climate Change Modeling: A Case Study of Himachal Pradesh, International Geographical Union (IGU) Conference on Geo-informatics for Biodiversity and Climate Change, MDU, Rohtak, 14-16 March, 2013. .</li> <li>21. Singh, S. (2016). Organized, Participated and Presented paper</li> </ol>
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	<p>entitled “Inconsistent Signals of Climate change in Kangra district, IGU, Delhi, 2016.</p> <p>22.Singh, S. (2014). Participated and Presented paper entitled “Climate change and livelihood security in Kangra district, IGI, Midnapore, 2014.</p> <p>23.Singh, S. (2013). Participated and Presented paper entitled Inconsistent signal of CC, 2013, VARODA Gujarat, IGI</p> <p>24.Singh, S. (2012). Participated and Presented paper entitled “Reaching the Unreach” NAGI, Patna, 2012</p> <p>25.Singh, S. (2012). Participated in UGC SAP workshop on “Techniques in Regional/Resource Studies”, University of Delhi, 2012.</p> <p>26.Singh, S. (2011). Participated and Presented paper entitled “Anthropogenic Biomes: A response to Global Climate Change Modeling” in the 33rd Indian Geography Congress at Burdwan, West Bengal, India., 2011.</p> <p>27.Singh,S.(2010). "Climate Change Dynamics in South Korea". Researchers Association of South Korea (RASK), Vol. 3, India International Centre, Delhi, February, 23, 2010.</p> <p>28.Singh,S.(2009). "Paradigm Shift from Shadow to Shine: Role of Women in Disaster Management". Conference paper, 1st National Congress on Role of Women in Disaster Preparedness 15th -16th December 2009, American Centre, New Delhi, India. ISBN 97881-89866-46-47</p> <p>15. Editorial member of “<b>Association of Geographical Studies</b>”, Delhi School of Economics, University of Delhi, India.</p>
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## ACTIVITIES AND ACHIEVEMENTS

### Additional Educational Awards

1. Participated in 15 days training organized by ISRO- Dehradun, on Advanced Geospatial Analysis for Urban Environment.
2. Successfully completed 3 months arduous training on Remote Sensing and GIS, organized by IIRS and DST (October-December, 2012).
3. Awarded UGC-SAP meritorious student Scholarship, October, 2011.
4. **Co- Chaired** the technical session at **American centre** on “Role of Women in Disaster Preparedness 15<sup>th</sup> -16<sup>th</sup> December 2009”. New Delhi India.
5. Member of Expert panel in Advance GIS and remote Sensing Technology (2000-05).
6. Certificate course in **Disaster Management** from IGNOU, emphasizing on concepts, GIS techniques, mitigation and management plans, (2004), **74 percent**.
7. Cleared UGC-NET (Mandatory Lectureship Examination in India.)- Dec 2005

### Volunteering Experience

1. Volunteered for blind student reading and teaching (1999 to 2007)
2. Volunteered for Pulse polio awareness program.
3. Worked part time to the school & college Cultural & language club
4. Team member in the college Magazine editorial board (IISc)
5. Volunteered in National level seminar on SEZ, Delhi School of

## CO-CURRICULAR INVOLVEMENT

1. “Indian`s second National Communication to the **United Nation Framework Convention** on Climate Change” (NATCOM- II), under Indian Institute of Science and Ministry of Environment and Forest (India).
2. Worked with **CIECRSO, Oslo** - Center for International Climate and Environment Research
3. Member of editorial board for assisting the publication of a yearly newsletter “**Association of Geographical Studies**”, Delhi School of Economics, University of Delhi.
4. **Indian Canada Environment Facility (ICEF)** - Technical Advisor for NRM studies.
5. Worked as GIS expert in Tumkur: Land Suitability Analysis
6. Worked as **Research Scientist** with **World Bank** and IISc collaboration on **Clean Development Mechanism (CDM)** in Himachal Pradesh, India (2008).
7. Active member of **All India Peace Foundation of Disaster Management**.
8. Convened various conferences and workshops on Disaster Management organized by Indian Institute of Technology (IIT) Delhi.

- » Raster GIS and RS packages:
  - MATLAB and CLIMATE SIMULATION MODELING
  - iLWiS (WATER SURFACE MODELING)
  - ArcGIS 10
  - ERDAS imagine,
  - ArcView3.2,
  - AutoCAD 2004
  - Vector GIS packages: ArcGIS 9.0
- » Net-Cdf, METLAB Analysis package
- » Census data Cartographic techniques and cartography software
- » Efficient with MS Office applications, LINUX.
- » data base (MS Excel, SPSS) software
- » Others: VB,HTML,MS Windows 2000/XP/Vista
- » Proficient with PDF page maker (fox edit)
- » Working knowledge of various Image editors.

## Software Skills

Place: New Delhi

(SWARNIMA SINGH)



## **DDU GU Responsibilities:**

- i. Letter no. 763/Sa.Pra/2019 Dated: 27/04/2019: Member of Founders Day committee held on 01/05/2019.
- ii. Dated 04/07/2019: Assistant Dean, DDUGU, Student Welfare
- iii. ACS in university examination in November-December 2018 & April-May 2019 evening shift.
- iv. Member of DRC-2019
- v. Member of Finance and Purchasing Committee.