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2023-2024

Data for Impact

IDCA Fellowship Yearbook

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FOREWARD

The India Climate and Health Data Capacity Accelerator (IDCA) Fellowship represents an exciting chapter in the intersection of climate, health, and data for social impact. Launched in May 2023 with the support of **Wellcome, DataDotOrg, and J-PAL South Asia**, the fellowship brings to life a vision of empowering the social sector with the skills and tools needed to tackle some of the most pressing challenges of our time.

This yearbook is a celebration of the incredible journeys of our fellows. It captures their contributions to projects that address disaster preparedness, climate resilience, and public health through innovative data solutions. From building models to streamlining disaster response to unlocking critical datasets for policy decisions, their work is a reminder of the transformative power of data when paired with purpose and expertise.

None of this would have been possible without the invaluable support of our academic partners—**Ashoka University, BITS Pilani, and IIIT Delhi**—and the organizations that have hosted our fellows. Their mentorship and collaboration have been instrumental in shaping the fellowship's success.

Looking ahead, we aim to welcome new cohorts, deepen collaborations, and expand the fellowship's reach. This yearbook not only captures the milestones we've achieved but also serves as a call to action for continued support and collective effort.

Together, let us build a future where data becomes a powerful force for solving the world's most pressing challenges.

—Tithee Mukhopadhyay

"The IDCA Fellowship brings to life a vision of empowering the social sector with the skills and tools needed to tackle some of the most pressing challenges of our time."

IDCA FELLOWSHIP OVERVIEW

Glimpses of Fellows in Action. Photo credit: J-PAL South Asia

The **India Climate and Health Data Capacity Accelerator** is building a workforce of purpose-driven data scientists and enabling social impact organizations to unlock the power of data to meet their missions.

This initiative is a collaboration between J-PAL South Asia and data.org, supported by Wellcome. The academic partners include Ashoka University, BITS Pilani, and IIIT Delhi. The Accelerator aims to strengthen the data capacity of the social sector in India by providing social impact organizations with the support they need to catalyze the application of data to address systemic challenges.

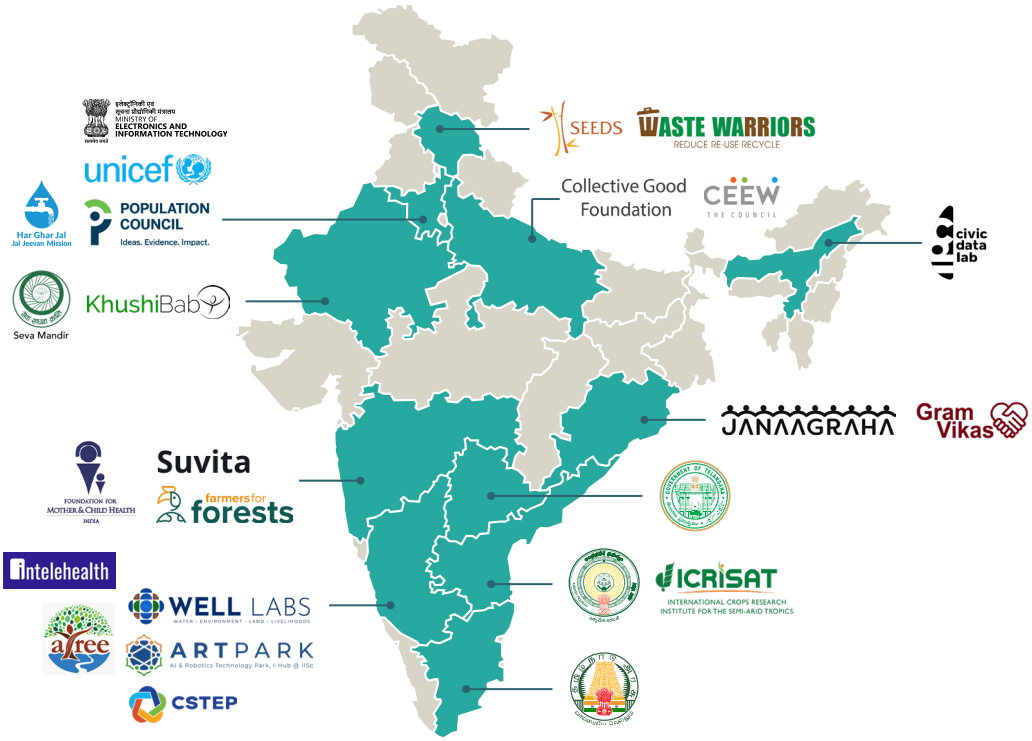
Our university partners will train up to 300 students and data professionals over a two-year period through 'Data Science for Social Impact' diploma programs. J-PAL South Asia will play a key role in placing these trained data professionals through Fellowships and Apprenticeships on carefully selected data projects in nonprofits and government agencies that address priority policy issues related to climate change and health.

IDCA FELLOWSHIP OVERVIEW

Major themes across projects

- Climate and health research
- Health implication of disease outbreak
- Clean energy
- Disaster Risk Reduction
- Urban governance
- Spatio-temporal assessment
- Maternal and child care
- Waste management
- Climate induced migration
- Carbon credit through agroforestry
- Data integration of climate
- Sustainable agriculture
- Climate loss and damage
- Impact of hydrological disasters
- Telemedicine in healthcare accessibility

The curated projects have diverse thematic and geographic focus within the climate-health nexus



THE FELLOWS' JOURNEY – 2023-2024 COHORT

ANUJA VENKATACHALAM

B.A. Economics, Bangalore University; M.Sc. Development Studies, LSE; BSc Programming and Data Science, IIT Madras

Host Organization: ARTPARK, Indian Institute of Science, Bengaluru
Project Title: Early Warning Systems for Dengue Using Multi-Modal Data
IDCA Mentor: Mr. Shivaram K R

Project Overview: Anuja built data pipelines to enhance dengue prediction models, improving data quality, interoperability, and accessibility at ARTPARK. She centralized 70+ datasets, automated workflows, and transitioned systems to a secure cloud platform, overcoming challenges in government data standardization to strengthen health and climate research.

> *"The fellowship enabled me to bridge data science with social impact, using machine learning and geophysics to tackle climate challenges."*

KANNAN SOBTI

B.E. Computer Science & Engineering, RV College of Engineering

Host Organization: Indian Scholars Program, J-PAL South Asia
Project Title: Machine Learning & Satellite Data for Flood Impact Assessment
IDCA Mentor: Mr.Taha Barwahwala

Project Overview: Kannan developed machine learning models to analyze satellite data, improving flood detection and disaster preparedness in underserved areas. He built an XGBoost model for flood prediction, processed remote sensing data using Google Earth Engine, and created a two-decade dataset on surface water levels in Indian villages. His work introduced AI-driven risk assessment integrating climate and social parameters.

> *"The fellowship allowed me to apply data science to real-world health challenges, enabling scalable solutions in climate and public health."*

CYRUS REGINALD

BA (H) Economics, DU; Master's in Data, Economics, and Development Policy, MIT

Host Organization: Khushi Baby
Project Title: Predictive Modeling of Climate-Health Vulnerability for Maternal Child Health in Rajasthan
IDCA Mentor: Dr. Madhan Kumar Srinivasan

Project Overview: Cyrus developed a health vulnerability index to assess climate-driven public health risks across Rajasthan. He mapped environmental factors like climate conditions, water quality, and pollution to disease incidence and built predictive models for outbreaks of dengue and malaria. His work included real-time climate data pipelines and securing funding to expand climate-health research across three states.

> *"The fellowship strengthened my ability to leverage data for climate-health insights, improving resilience and targeted health interventions."*

NIKHILA VIJAY

B.Com (H), DU; PGDM, Institute of Management Technology; Master in Public Policy, UCB; Data Science in Health and Climate Change for Social Impact, IIITD

Host Organization: Janaagraha
Project Title: Assessing Just Transitions to Cleaner Energy for Urban Poor in Odisha
IDCA Mentor: Mr. Gautam Rajeev

Project Overview: Nikhila supported household surveys in three cities to assess the health and economic impact of fuel choices on low-income urban communities. She developed R-based analytical tools, created a spatial dashboard mapping fuel choices and health indicators, and designed a cost calculator for clean energy transitions. Her work informed policy discussions through a stakeholder symposium in Bhubaneswar, facilitating dialogue between governments, donors, and communities.

> *"The fellowship enhanced my ability to apply data analytics to urban policy challenges, driving informed decision-making for sustainable energy transitions."*

THE FELLOWS' JOURNEY – 2023-2024 COHORT

ALOKITA JHA

B.A. Social Science, BHU; M.A. Sustainable Livelihoods & Natural Resources Governance, TISS; Data Science for Social Impact, Ashoka University

Host Organization: International Crops Research Institute for the Semi-Arid Tropics (ICRISAT)
Project Title: Spatiotemporal Assessment of Climate Change, Agriculture & Health in India
IDCA Mentor: Mr. Taha Barwahwala

Project Overview: Alokita is examining the impact of droughts on childhood nutrition and maternal health in India's vulnerable districts. Using national survey and climate data, she is identifying regions at risk of climate-induced malnutrition and developing spatial assessments of health infrastructure to inform policy interventions. Her analysis of NFHS data revealed causal links between climate, agriculture, and health indicators, highlighting the role of maternal health and education in addressing multi-sectoral challenges.

> *"The fellowship strengthened my ability to integrate climate and socio-economic data, developing evidence-based insights for health and agricultural resilience."*

PRAVESH KUMARI

B.Sc. Life Science, Sanskriti University; M.Sc. Bioinformatics, BHU; Data Science for Social Impact, Ashoka University

Host Organization: Janaagraha
Project Title: Developing the City Data and Analytics Platform (CDAP) for Urban Governance and Climate Change Mitigation
IDCA Mentor: Mr. Avtar Singh

Project Overview: Pravesh is working on developing CDAP to centralize urban data and enhance evidence-based decision-making. She is integrating socio-economic, health, and spatial datasets, conducting spatial analysis, and creating a mock-up for data visualization. Her work addresses data fragmentation and inconsistencies, improving governance and citizen engagement.

> *"The fellowship refined my ability to apply data science in the social sector, strengthening urban governance through data integration and analytics.*

ALOK ARUNAM

B.Tech + M.Tech Engineering Design, IIT Madras; PG Public Policy, ISPP; Data Science for Social Impact, Ashoka University

Host Organization: Collective Good Foundation
Project Title: Developing a Hyperlocal Climate-Health Early Warning & Decision Support System
IDCA Mentor: Mr. Mohammad Sarfarazul Ambiya

Project Overview: Alok is developing a city-level Climate-Health Early Warning and Decision Support System (EW-DSS) by integrating climate and health datasets for risk assessment and policy action. He computed Composite Climate-Health Vulnerability Scores and Heat-Health Vulnerability Scores using Principal Component Analysis (PCA) to identify high-risk regions. His work strengthened data infrastructure, geospatial analysis, and local capacity-building to institutionalize EW-DSS at the city level.

> *"The fellowship deepened my ability to integrate data, policy, and community insights, shaping evidence-based climate adaptation strategies."*

THE FELLOWS' JOURNEY – 2023-2024 COHORT

SAURABH LEVIN

PG Design for Cultural Commons, London Metropolitan University; Data Science for Social Impact, Ashoka University

Host Organization: Civic Data Lab
Project Title: Development of an Intelligent Data Solution for Disaster Risk Reduction
IDCA Mentor: Ms. Somya Gupta

Project Overview: Saurabh is developing the Intelligent Data Solution for Disaster Risk Reduction (IDS-DRR) to support flood-risk planning and resource allocation in Assam, Himachal Pradesh, and Odisha. He processed 52 datasets for disaster planning, conducted flood risk analysis along the Beas River, and supported state and district disaster management authorities (SDMAs & DDMAs). His work improved data accessibility, disaster response efficiency, and AI-driven public procurement analysis for resilience planning.

> *"The fellowship reinforced my commitment to data-driven disaster management, ensuring better preparedness and resource allocation in vulnerable regions."*

VINOJ P RAJ

B.Sc. Chemistry, Physics & Mathematics, IEC University; Data Science for Social Impact, Ashoka University

Host Organization: Suvita
Project Title: Unlocking the Potential of AI to Transform Vaccine Coverage.
IDCA Mentor: Mr. Gautam Rajeev

Project Overview: Vinoj strengthened Suvita's data infrastructure to improve vaccination outreach and engagement. He automated data workflows, reducing messaging errors by 50% and increasing message throughput to 2000 TPS. Integrating WhatsApp as a communication channel tripled engagement, while workflow optimizations saved ₹17 lakh annually. His work enhanced personalized communication strategies and data-driven decision-making for scalable impact.

> *"The fellowship reinforced my ability to merge data science with social impact, driving efficiency and engagement in public health initiatives."*

DEEPANSHU SHARMA

B.Tech in E&C, Rajasthan Vidyapeeth University; Master in Social Work, IGNOU; Data Science in Health and Climate Change for Social Impact, IIITD

Host Organization: Waste Warriors
Project Title: Developing a Centralized Platform for Waste Management Tracking in the Indian Himalayas
IDCA Mentor: Ms. Somya Gupta

Project Overview: Deepanshu developed a centralized waste tracking platform to streamline data management and reporting for projects in Uttarakhand and Himachal Pradesh. He conducted waste data audits, standardized waste metrics and reporting views, and migrated key datasets to BigQuery. His work included building dashboards for waste tracking and social media insights, strengthening M&E capabilities for data-driven decision-making.

> *"The fellowship enhanced my expertise in data integration for waste management, bridging technology with sustainability to improve impact tracking."*

THE FELLOWS' JOURNEY – 2023-2024 COHORT

SATYA BHUSHAN

B.A. (H) Economics, SRCC; M.A. Economics, DSE; Data Science for Social Impact, Ashoka University

Host Organization: Government of Andhra Pradesh
Project Title: Detecting and Assessing Climate Change Impacts on Human Health in Andhra Pradesh
IDCA Mentor: Mr. Samresh Kumar

Project Overview: Satya is analyzing the climate-driven health impacts in Andhra Pradesh, identifying villages and wards affected by extreme weather events. He conducted primary surveys in flood-affected areas of Vijayawada, assessing disease incidence, hospitalization rates, and economic losses. His work aims to establish causal links between extreme weather (heatwaves & floods) and public health risks, guiding policy interventions for climate resilience.

> *"The fellowship strengthened my ability to analyze climate-health intersections, enabling data-driven strategies to mitigate health risks in vulnerable communities."*

SAURABH SOOD

M.A. Sustainable Development, TERI School of Advanced Studies; M.A. Public Policy, O.P. Jindal University, Data Science in Health and Climate Change for Social Impact, IIITD

Host Organization: Gram Vikas
Project Title: Impact of Water Quality on Waterborne Disease Incidence in Odisha
IDCA Mentor: Mr. Gautam Rajeev

Project Overview: Saurabh is working on analyzing the water quality data from four districts in Odisha to assess its impact on WASH-related illnesses. He is developing heat maps illustrating contamination levels, designing data collection templates, and proposing a causal framework linking water quality to community health. His work aims to improve monitoring strategies and inform Gram Vikas' long-term interventions.

> *"The fellowship enhanced my ability to apply data-driven research for sustainable water and health solutions in rural communities."*

SAITEJA PAMU

B.Tech Mechanical Engineering, Rajiv Gandhi University of Knowledge Technologies; PGDM Forestry Management, IIFM; Data Science in Health and Climate Change for Social Impact, IIITD

Host Organization: Farmers for Forest
Project Title: Leveraging Data Science for Carbon Sequestration to Develop Climate-resilient Agricultural Practice
IDCA Mentor: Ms. Sree Vani Mitnala

Project Overview: Saiteja is working on a reforestation initiative across Maharashtra, Gujarat, and Madhya Pradesh, restoring degraded lands by planting 120+ native species with 1,000 trees per hectare. His work focuses on carbon sequestration, biodiversity conservation, and rural employment generation. He is also exploring carbon markets, conducting project documentation and data analysis, and promoting climate awareness through mobile science labs and school programs.

> *"The fellowship strengthened my expertise in reforestation, carbon markets, and sustainable land restoration, enabling me to drive impact in rural communities."*

THE FELLOWS' JOURNEY – 2023-2024 COHORT

ASHISH JHA

M.Tech, IIITM; MBA, IITD; Data Science in Health and Climate Change for Social Impact, IIITD

Host Organization: Seva Mandir
Project Title: Developing an AI-Driven Progress Tracking System for Health, Education, and Climate Interventions
IDCA Mentor: Mr. Samresh Kumar

Project Overview: Ashish is developing a data tracking system for Seva Mandir to streamline health, education, and climate intervention data. He aims to design a dashboard-based system that standardizes datasets, automates data validation, and enables real-time analytics for decision-makers. His work improves data accuracy, accessibility, and efficiency, reducing manual errors while ensuring fieldworkers can input data seamlessly without disrupting operations.

> *"The fellowship reinforced my belief that sustainable impact systems must balance technology with human-centered design for long-term adoption."*

UTKARSH AGARWAL

B.A. (H) History, DU; Master's in Public Policy, National School of India University; Data Science in Health and Climate Change for Social Impact, IIITD

Host Organization: Intelehealth
Project Title: Evaluating the Climate Benefits of Telemedicine in Odisha
IDCA Mentor: Mr. Kiran Bhagavatula

Project Overview: Utkarsh is assessing the climate, economic, and operational benefits of Odisha's eSanjeevani telemedicine program. He is developing a cost-benefit model to quantify reduced travel distances, carbon emissions, and healthcare costs. His work involves data analysis, field visits to health facilities, and policy recommendations to scale sustainable telemedicine solutions.

> *"The fellowship strengthened my ability to apply data-driven insights to healthcare sustainability, bridging climate and public policy."*

PARITOSH SWARNAKAR

B.Tech. Mechanical Engineering, IIT Raipur; M.A. Development Studies, TISS; Data Science for Social Impact, Ashoka University

Host Organization: Population Council
Project Title: Understanding Climate-Induced Migration in the Context of Just Energy Transitions
IDCA Mentor: Mr. Vishwas Chitale

Project Overview: Paritosh is analyzing migration patterns using ration card transaction data from Delhi, Haryana, and Maharashtra to assess climate-induced displacement trends. His work explores the intersection of climate, migration, and energy policies to develop region-specific adaptation strategies. He also facilitated discussions on integrating Just Energy Transition (JET) principles into climate-migration frameworks, emphasizing social justice and sustainable development.

> *"The fellowship enabled me to apply data-driven insights to climate-induced migration, shaping equitable and sustainable policy solutions."*

THE FELLOWS' JOURNEY – 2023-2024 COHORT

GHAZAL HASHMI

B.Tech Civil Engineering, Jamia Millia Islamia; M.Tech Environmental Engineering, IIT Patna; Data Science in Health and Climate Change for Social Impact, IIITD

Host Organization: ATREE
Project Title: Assessing Chemical Input Use in Indian Agriculture & Promoting Sustainable Agroforestry
IDCA Mentor: Ms. Sree Vani Mitnala

Project Overview: Ghazal is analyzing fertilizer application rates across key agricultural regions to assess their environmental and economic impacts. She conducted a pilot study on paddy cultivation to evaluate synthetic fertilizer overuse and mapped ecosystem services linked to cropping patterns. Using the Payment for Ecosystem Services (PES) framework, she aims to design an incentive-based agroforestry model to encourage farmers to adopt ecologically sustainable tree species.

> *"The fellowship strengthened my ability to integrate environmental data with policy insights, developing solutions for sustainable agriculture and ecosystem restoration."*

YASH RAWAL

B.Com, MLSU; Data Science in Health & Climate Change for Social Impact, IIITD

Host Organization: SEEDS
Project Title: Establishment of Akshvi - National Loss Platform: Digital Wallets for Climate Loss & Damage
IDCA Mentor: Mr. Samresh Kumar

Project Overview: Yash is working towards the development of Akshvi - National Loss Platform (NLP) to enable real-time, data-driven compensation for disaster-affected communities. He aims to create a State Vulnerability Index with 70+ data points, design a Compensation Policy Mechanism Index, and build a dashboard for loss analysis and emergency response. His work ensures transparent, needs-based financial assistance, integrating self-reporting mechanisms and digital disaster loss wallets.

> *"The fellowship enhanced my ability to integrate data science with disaster resilience, streamlining compensation processes for climate-affected communities."*

NAMYA KUMAR

B.Tech IT, Symbiosis Institute of Technology; Data Science in Health and Climate Change for Social Impact, IIITD

Host Organization: Suvita
Project Title: Enhancing Vaccination Outreach Through Data-Driven Insights
IDCA Mentor: Mr. Mohammad Sarfarazul Ambiya

Project Overview: Namya is working on optimizing Suvita's vaccination outreach by improving data accuracy in the RCH database and analyzing climate factors affecting immunization rates. She is assessing the impact of monsoons on caregiver availability and data entry, ensuring more effective SMS reminder campaigns. Her contributions helped refine data models to enhance operational efficiency and health outcomes.

> *"The fellowship strengthened my ability to apply AI and data science to public health challenges, driving impactful, data-driven interventions."*

THE FELLOWS' JOURNEY – 2023-2024 COHORT

SUDRIP DHAR

B.A. English, Maharaja Bir Bikram University; PG Public Policy, Mount Carmel College; Data Science for Social Impact, Ashoka University

Host Organization: Jal Jeevan Mission & Waste Warriors
Project Title: Framework for Assessing Sachet Waste Costs & Waste Segregation in Himalayan Communities

Project Overview: Sudrip analyzed sachet waste's economic and environmental costs and waste segregation rates in Himalayan communities. He verified statistical models, contributed to policy recommendations, and developed data visualization tools. His work included analyzing primary data from seven cities and conducting field research with waste collectors through Project SAKHI.

> *"The fellowship deepened my understanding of grassroots policy research, waste management challenges, and the intersection of sustainability and governance."*

PRIYANSHU KHOUND

B.Tech CSE, GSFC University

Host Organization: WELL Labs & Government of Andhra Pradesh
Project Titles: 1. Analyzing Urban Flood Events in India; 2. Climate-Health Data Research in Andhra Pradesh

Project Overview: Priyanshu analyzed urban flood events in India's top five cities, using NLP and AI to develop an interactive dashboard for risk assessment. He also worked on climate-health data in Andhra Pradesh, automating geospatial analysis to map healthcare accessibility. His work supported evidence-based policymaking for disaster resilience and public health planning.

> *"The fellowship deepened my expertise in data-driven policymaking, applying AI and analytics to urban resilience, climate change, and public health."*

KRISHNENDU J

B.Sc. Economics, IISER Bhopal

Host Organization: WELL Labs
Project Title: Assessing the Economic Costs of Urban Flooding in Bengaluru

Project Overview: Krishnendu analyzed economic losses from urban flooding in Bengaluru, focusing on real estate value depreciation in high-risk zones. He used GIS and spatial econometric models to quantify financial impacts and highlight uneven distribution of losses across the city. His findings provide a data-driven framework for urban planning and flood mitigation strategies.

> *"The fellowship strengthened my ability to integrate economic analysis with climate risk assessment, informing sustainable urban planning."*

MENTOR PROFILES

SHIVAM KR
Co-founder and CEO,
Hue Learn

DR. MADHAN KUMAR SRINIVASAN
Co-founder and CEO,
Wise Work

TAHA BARWAHWALA
Data Researcher
and Policy Advocate, Columbia University

GAUTAM RAJEEV
Data Scientist,
Samagra

MOHAMMAD SARFARAZUL AMBIYA
Chief Data Scientist,
Khushi Baby

SOMYA GUPTA
Head of ML,
EarnIn

KIRAN BHAGAVATULA
Monitoring and Evaluation,
Dakshin Foundation

SREE VANI MITNALA
Data Scientist,
ICRISAT

VISHWAS CHITALE
Senior Program Lead,
CEEW

SAMRESH KUMAR
Senior Business
Value Consultant,
Observe.ai

A NOTE OF THANKS

The India Data Capacity Accelerator (IDCA) program has been a remarkable journey of collaboration, learning, and impact. This yearbook stands as a celebration of the collective efforts of everyone who has contributed to its success.

I begin by expressing our deepest gratitude **to our core partners – data.org, Wellcome Trust, and our academic partners (Ashoka University, BITS Pilani, and IIIT-Delhi)** – thank you for your steadfast support and collaboration. Your partnership has been the cornerstone of this program, enabling us to build a robust platform for capacity-building and innovation.

To the **dedicated IDCA program team members** who joined us in this journey both past and present, your relentless efforts in designing, managing, and evolving the program have been exceptional. Your commitment to excellence has ensured the program's growth and impact.

I am equally grateful to our **host organizations**, whose openness and collaboration have provided our fellows with the opportunity to address real-world challenges in climate, health, and social development. Your support has amplified the program's mission of creating data-driven solutions for a better future.

To our incredible fellow **mentors**, thank you for sharing your expertise and providing invaluable guidance to our fellows. Your mentorship has been key to their growth, helping them navigate challenges and refine their skills to deliver impactful outcomes.

I also extend my gratitude to the **advisory committee members of the IDCA program**. Your invaluable guidance, insights, and strategic direction have been instrumental in shaping the program and ensuring its alignment with our shared vision of driving data-driven solutions for social good.

Finally, to our fellows, you are the heart and soul of the IDCA program. Your passion, curiosity, and determination to make a difference inspire us all. Your contributions, both in terms of learnings and impactful project outcomes, are a testament to the power of data for social good.

This yearbook is a reflection of our shared journey and a tribute to the collective commitment to building a community that leverages the transformative potential of data. Together, we are creating a legacy of innovation, collaboration, and meaningful change.

With heartfelt gratitude,

Aditi Namdeo
Program Director
India Data Capacity Accelerator for Climate & Health
J-PAL South Asia

Social Impact Organizations

unicef

Har Ghar Jal
Jal Jeevan Mission

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Seva Mandir

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Gram Vikas

Suvita

SEEDS

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INDIA

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THE COUNCIL