



Columbia World Projects

 **COLUMBIA UNIVERSITY**
IN THE CITY OF NEW YORK



Research Into Action

A COLUMBIA WORLD PROJECTS REPORT

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It is my pleasure to write to you in my capacity as director of Columbia World Projects (CWP). I was honored when Columbia University President Lee C. Bollinger asked me to spearhead this growing program. CWP aims to use Columbia knowledge and research to advance human welfare, thus furthering President Bollinger’s vision of achieving a new “Fourth Purpose” for the university.



I have dedicated my career to bringing the fruits of research to tackling major health challenges worldwide and I am humbled by the opportunity to oversee an initiative that brings together the university’s full range of expertise. The critical role that Columbia has played in the COVID-19 pandemic demonstrates how necessary it is for this university and institutions like it to mobilize to confront the great challenges of our time.

CWP has taken great strides toward achieving its mission since its founding in 2017. We have launched worldwide initiatives to address challenges in climate, COVID-19, democratic renewal, energy access, inclusive urbanism, maternal health and unequal opportunity. Projects are now active around the world and across the United States. In a joint program with the Obama Foundation, CWP just welcomed a fourth cohort of rising global leaders, who have gained from interactions with the Columbia community. CWP has also brought together more than 1,200 thought leaders from Columbia with experts from government, other universities, and the private and non-profit sectors.

In the coming months we will be building on CWP’s achievements to date. Our approach is centered on developing and deploying new, multi-strategy initiatives that amplify Columbia’s role as a change agent in the world. Serving as the hub for the University’s Fourth Purpose, CWP will plan, build and enact new ways of turning knowledge into action.

I trust that this report will give you a flavor of the work accomplished and our ambitions for the future as Columbia World Projects grows to achieve its highest vision—expanding the role of our university and setting the path for others to follow.

A handwritten signature in dark ink, appearing to read 'W. El-Sadr', written in a fluid, cursive style.

Wafaa El-Sadr
Director, Columbia World Projects

BY THE NUMBERS

1,200 +

experts, including

575 +

thought leaders from government and the private and non-profit sectors and

600 +

academics, have taken part in Columbia World Projects forum meetings, convenings and project planning workshops

2,100 +

candidates from

139

countries applied for the 2021-2022 Obama Foundation Scholars Program

Columbia World Projects actively operates

11

projects in

11

countries on

4

continents

46

rising leaders from

36

countries on

6

continents have participated in the Obama Foundation Scholars Program

150 +

postdoctoral scholars, doctoral students, masters students and undergraduates have engaged with Columbia World Projects as researchers and administrators

300 +

Columbia University faculty across

18

Columbia schools and affiliates and

21

Columbia centers and institutes have joined convenings and strategy sessions hosted by Columbia World Projects

13,500 +

students, faculty and members of the public have watched our online and in-person events

NGOs and Non-profits

Centre for Policy Research, Delhi
Clean Cooking Alliance
Consortium for Alabama Rural Water & Wastewater Management
Black Belt Community Foundation
International Society of Catastrophe Managers
Mobilizing Preachers & Communities – New York (MPAC – NY)
The Obama Foundation
Research Foundation for Mental Hygiene (RFMH)
Room to Grow
Swiss Re Foundation
Vaccine Confidence Project

Multilateral Organizations

CGIAR Research Program on Climate Change, Agriculture & Food Security (CCAFS)
Food & Agriculture Organization
Inter-American Development Bank
United Nations Capital Development Fund (UNCDF)
World Bank
World Food Programme

Universities

Beirut Urban Lab at American University of Beirut
Brown University
ETH Zurich
Instituto Tecnológico de Santo Domingo (INTEC)
King's College London
La Universidad Iberoamericana (UNIBE)
Massachusetts Institute of Technology
Potsdam Institute for Climate Impact Research
Rural Studio, School of Architecture, Planning & Landscape Architecture at Auburn University
University of Alabama
University of California, Irvine
University of California, Santa Barbara
University of North Carolina
University of South Alabama

Private Sector

Aon
AllenComm
ModernEpic

Government Agencies

Department of Health & Mental Health of Ulster County, New York
Kansas Department of Health & Environment
Kintampo Health Research Centre, Ghana Health Services, Ghana Ministry of Health
Maine Center for Disease Control & Prevention
Michigan Department of Health & Human Services
New Jersey Department of Health
New York City Civic Engagement Commission
New York City Department of Health & Mental Hygiene
New York State Office of Mental Health
New York State Psychiatric Institute (NYSPI)
Office of the Mayor of the National District of Santo Domingo, Dominican Republic
Pennsylvania Department of Health
Utah Department of Health
Virginia Department of Health

Columbia University & Affiliate Schools

Barnard College
College of Dental Medicine
Columbia Business School
Columbia College
Columbia Climate School
Columbia Journalism School
Columbia Law School
Fu Foundation School of Engineering & Applied Science
Graduate School of Architecture Planning & Preservation
Graduate School of Arts & Sciences
Mailman School of Public Health
School of General Studies
School of International & Public Affairs
School of Professional Studies
School of Social Work
School of the Arts
Teachers College
Vagelos College of Physicians & Surgeons

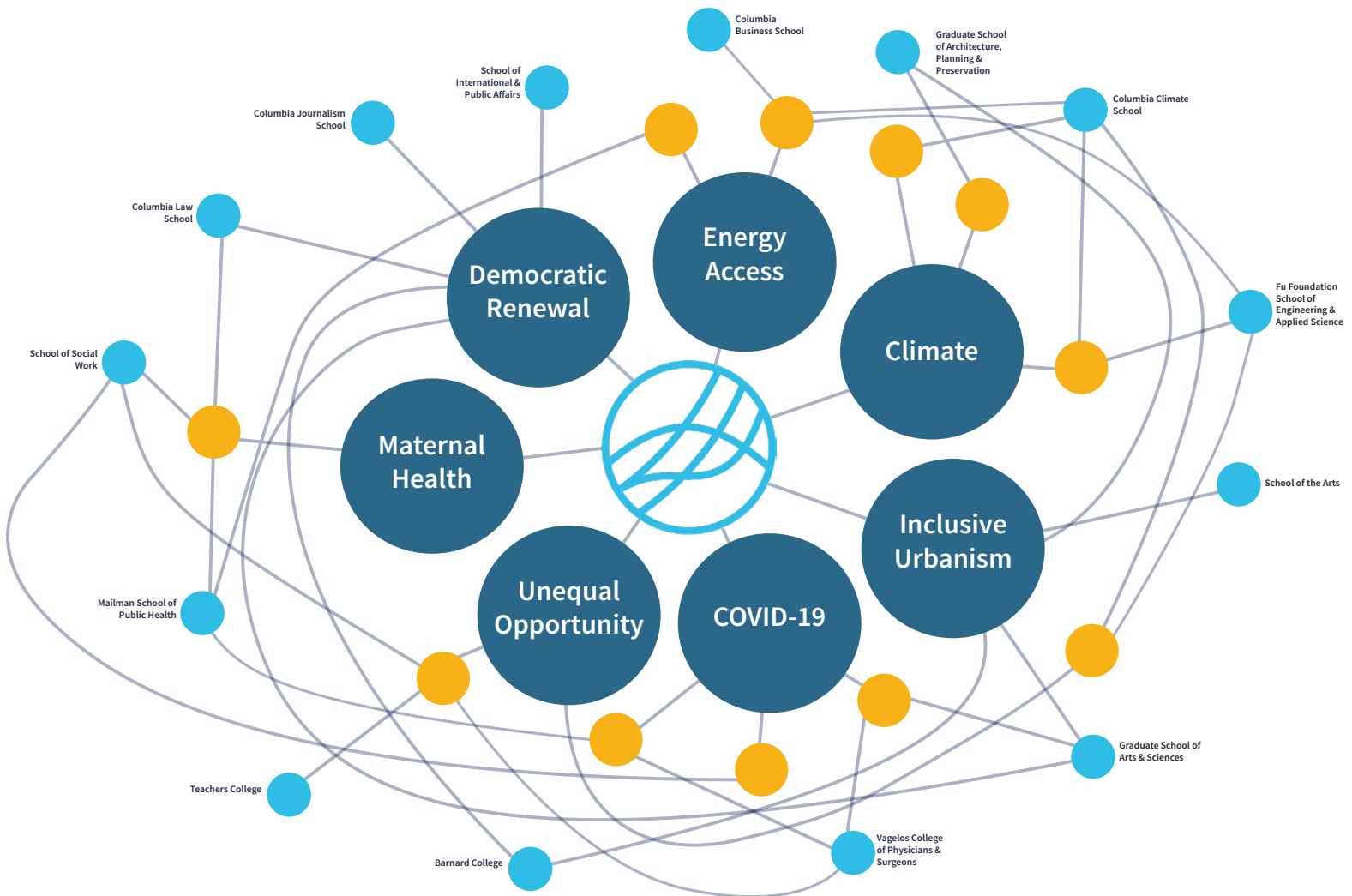
Columbia University Centers & Institutes

Center for Complicated Grief
Center for Undergraduate Global Engagement
Center on Global Energy Policy
Columbia Alliance
Columbia Center for Oral History Research
Columbia Entrepreneurship Design Studio
Columbia University Irving Medical Center
Columbia University Libraries
Data Science Institute
The Earth Institute
European Institute
Heyman Center for the Humanities
ICAP
Institute for Comparative Literature & Society
International Research Institute for Climate & Society
Justice Lab
Knight First Amendment Institute
Lamont-Doherty Earth Observatory
Sabin Center for Climate Change Law
SAFE Lab
Society of Fellows
Urban Design Lab
Weatherhead East Asian Institute

Columbia World Projects (CWP) Collaborations Across the University

- Columbia University Schools & Affiliates
- Active Projects
- Social Impact Areas

This graphic provides a non-exhaustive list of the wide-ranging connections that CWP has made between Columbia University schools and affiliates



Columbia World Projects Timeline

PHASE ONE

Developing the Idea
(2015-2017)

PHASE TWO

Building the Organization
(2017-2020)

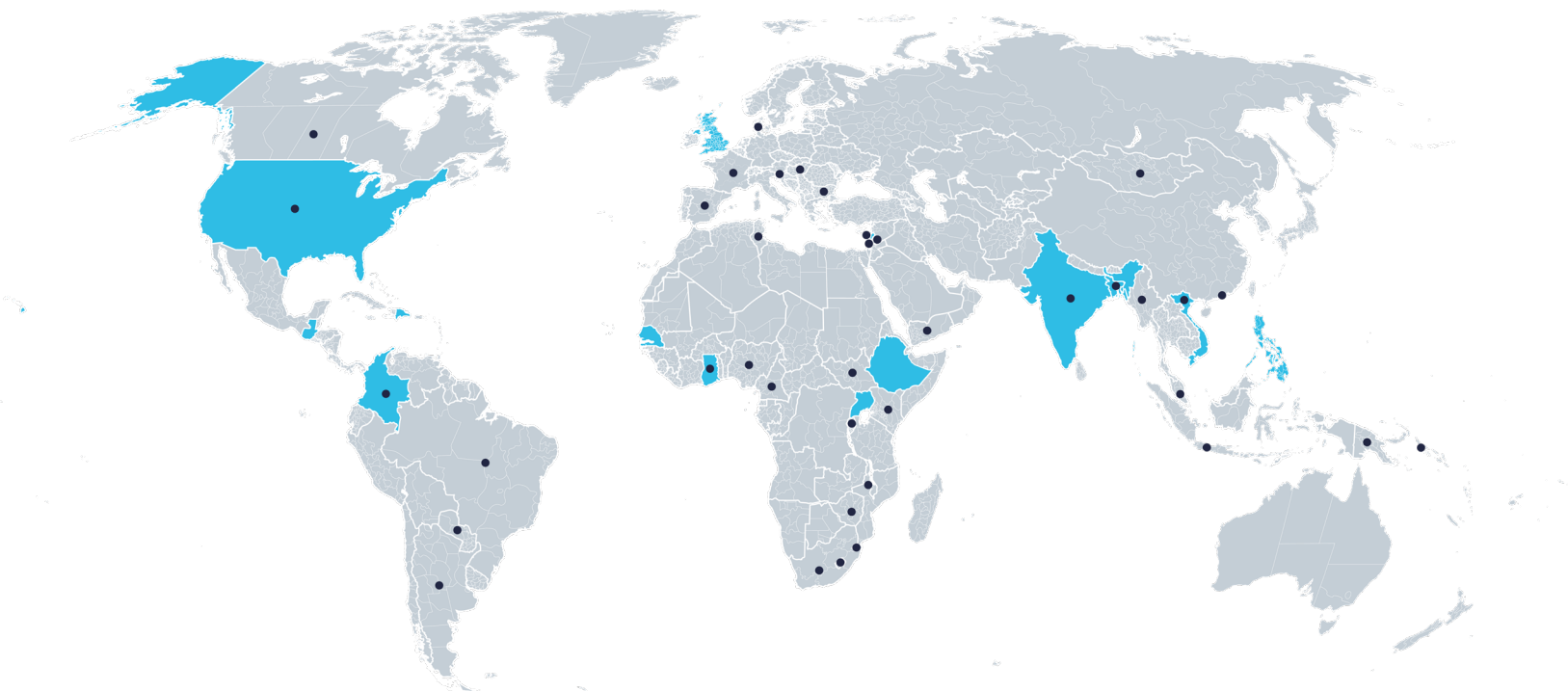
PHASE THREE

Scale, impact, sustainability
(2020-future)

“

Columbia World Projects draws on knowledge and resources from across our departments, schools and campuses in ambitious pursuit of what I call the Fourth Purpose of universities — advancing human welfare by merging our distinctive intellectual capacities with groups and organizations beyond the academy to bring about meaningful change.”

LEE C. BOLLINGER, PRESIDENT AND SETH LOW
PROFESSOR OF THE UNIVERSITY, COLUMBIA UNIVERSITY





Meeting the Moment by Pivoting to Confront COVID-19

When the COVID-19 pandemic began to spread across the globe in early 2020 and its devastating effects became startlingly clear in just weeks, Columbia World Projects (CWP) pivoted as the entire world did. CWP quickly put out a call across Columbia seeking ideas to address the pandemic. Building on the ideas respondents generated, CWP brought together 40 multidisciplinary experts from within and outside the university for a meeting to present, discuss and evaluate these ideas.

The ideas generated by meeting participants led to the launch of three COVID-19 projects that aim to tackle key gaps in the global COVID-19 response by reducing prolonged grief in Harlem's Black community, mitigating mental health risks associated with the pandemic and improving vaccine confidence.

CWP's three COVID-19 projects take a novel approach to the pandemic. They bring together faculty from Columbia's School of

Social Work, Irving Medical Center, Institute for Comparative Literature & Society, Data Science Institute and other schools and institutes to tackle the pandemic in cross-disciplinary ways.

Confronting COVID-19 Loss in Harlem mobilizes Harlem community leaders to work with Columbia scholars to modify a set of digital tools – such as apps and videos – developed by Columbia's Center for Complicated Grief to

SPOTLIGHT: MEETING THE MOMENT BY PIVOTING TO CONFRONT COVID-19

address prolonged grief disorder, a form of grief that is enduring and significantly disrupts the quality of daily life. Guided by experts at SAFE Lab at the Columbia University School of Social Work, the project will engage Black community leaders in Harlem in a series of focus group discussions and will also collect and analyze personal narratives about experiences of grief from members of the Black community in online forums. The insights from these focus groups and from an analysis of the online writings will be used to adapt the Center's digital tools to better serve the Black community.

Digital Mental Health Care for COVID-19 High-Risk Populations brings together Columbia faculty with expertise across the areas of trauma, mental health and cultural competence, and experts in videography and online behavioral change interventions to address the widening gap between demand and availability of mental health services. The project is particularly relevant to the growing awareness of the potential long-term mental health impacts of COVID-19 on health care and other essential workers. In partnership with the New York State Office of Mental Health, the project developed videos and interactive online modules to reduce stigma and empower individuals to seek mental health care. These resources will be available on the New York State Office of Mental Health's online platform and disseminated as part of a statewide effort to make digital mental health interventions for high-risk groups more accessible.

Increasing COVID-19 Vaccine Confidence engages literary scholars, medical professionals, data experts, political scientists, community leaders and public health practitioners to develop public messaging that encourages vaccination. The project is creating the world's largest public dataset of vaccine-hesitant language, collected from online forums such as Facebook, YouTube, Twitter, Parler and Reddit, which have become primary platforms for discussing and disseminating vaccine skepticism and other vaccine-related concerns. The project team will use this data to develop public messaging that flips this narrative on its head by drawing on vaccine skepticism to counteract it. The project will also make this information available for use by public health departments.

"The COVID-19 projects are a model for how to step up to address new challenges, bring together committed experts from across the university's various schools and disciplines and pivot to ensure that ongoing activities continue in the time of crisis," said Wafaa El-Sadr, director of CWP.

While CWP developed pandemic response projects, it also quickly shifted to adjust to the new reality in other ways. CWP welcomed a virtual cohort of Obama Foundation Scholars in fall 2020 after creating a fully redesigned digital program. It included workshops, panel events, one-on-one academic advising and thought leadership sessions led by more than 20 noted speakers, including the 2011 Nobel Peace Prize laureate Leymah Gbowee; Columbia University journalism professor, author and *The New Yorker* staff writer Jelani Cobb; and Columbia University President Lee C. Bollinger.

"It was obvious that Columbia World Projects should and indeed must play a role in the university's pandemic response," said Nicholas Lemann, director of CWP at the time. "We faced the moment, responding rapidly to the problem at hand."

CWP has continued to harness the university's thought leadership and convening power, bringing together experts for public and private events to discuss pressing social issues brought to the forefront by the pandemic. These events have garnered more than 12,000 digital views. One meeting brought together representatives of minority-owned small businesses and community-based organizations in Harlem, policymakers, financial institutions and academics to identify concrete steps the U.S. Congress should take to mitigate the disproportionate economic impact the COVID-19 pandemic has had on minority-owned small businesses. The convening's findings were disseminated to key members of Congress to inform ongoing discussions around legislation.

"COVID changed the world and it changed Columbia World Projects," said El-Sadr. "Responding quickly to the challenges that arise in the world is crucial for an organization like ours—and we've now embedded that agility in our DNA."

At a Glance

[Confronting COVID-19 Loss in Harlem](#)

PROJECT LEADS

- + **Johnnie Green**
Mobilizing Preachers & Community, New York
- + **Desmond Upton Patton**
Columbia University
- + **M. Katherine Shear**
Columbia University

[Digital Mental Health Care for COVID-19 High-Risk Populations](#)

PROJECT LEADS

- + **Doron Amsalem**
Columbia University, New York State Psychiatric Institute
- + **Lisa B. Dixon**
Columbia University, New York State Psychiatric Institute
- + **Sidney H. Hankerson**
Columbia University, New York State Psychiatric Institute
- + **Roberto Lewis-Fernández**
Columbia University, New York State Psychiatric Institute
- + **Yuval Neria**
Columbia University, New York State Psychiatric Institute
- + **Thomas E. Smith**
Columbia University, New York State Office of Mental Health, New York State Psychiatric Institute
- + **Melanie Wall**
Columbia University, New York State Psychiatric Institute

[Increasing COVID-19 Vaccine Confidence](#)

PROJECT LEADS

- + **Rishi K. Goyal**
Columbia University
- + **Dennis Yi Tenen**
Columbia University



Seeking Answers to Disparities in Maternal Health in the United States

Data consistently show that the United States lags behind other developed countries in maternal mortality, with disparities by race and ethnicity, illuminating a stubborn public health failure. Most efforts to improve U.S. maternal health focus on pregnancy and childbirth. But the year after birth, when one in three maternal deaths occurs, is now recognized as a critical period for intervention.

Columbia World Projects' (CWP) commitment to tackling this challenge brings together three experts who have dedicated their careers to researching Medicaid policies, the impact of state and national policy on maternal health, and legal issues in health care.

Leveraging Policy to Improve Maternal Health in the Fourth Trimester is a CWP project that draws on the extensive expertise in social work, public health and law of professors Heidi L. Allen (Columbia School of Social Work), Jamie Daw (Columbia Mailman School of Public Health) and Kristen Underhill (formerly of Columbia Law

SPOTLIGHT: SEEKING ANSWERS TO DISPARITIES IN MATERNAL HEALTH IN THE U.S.

School, now at Cornell University). This past year, the team designed and oversaw a survey of women's postpartum health issues and well-being in the year after giving birth. Amid the COVID-19 pandemic, the team worked with health department partners across the U.S. to implement the first large-scale study to collect data from thousands of U.S. women in six states and New York City on health issues in the postpartum year.

“

CWP enabled three experts from different disciplines and schools who care deeply about maternal and child health to come together around their shared passion,” said Michael Sparer, Professor and Chair in the Department of Health Policy & Management at the Mailman School of Public Health. “This is a model of the way researchers across the university can collaborate and connect their work to policy.”

The data collected from the survey — called the Postpartum Assessment of Women Survey (PAWS) — came at a perfect moment. A provision included in the American Rescue Plan Act of 2021 will enable states to extend pregnancy Medicaid coverage for up to one year postpartum, a significant increase from the current 60 days. In states that adopt the extension, more women who would lose Medicaid eligibility two months after birth will now be able to stay on Medicaid for an entire year postpartum, when many health problems arise. The provision allows states to easily adopt this expansion and receive federal funds to support program costs.

That's where CWP's survey data comes in. State policymakers across the country recognize the urgent need to improve maternal health outcomes and postpartum health in particular. However, public health data collection has historically focused on pregnancy and childbirth. As a result, there is almost no comprehensive data on women's health and social needs that policymakers can draw on to identify policy priorities and design evidence-based interventions that advance postpartum health. Once the CWP team gathers data on the issues that women face after giving birth, it will share recommendations with state governments and other stakeholders on how to transform Medicaid policy to better serve the needs of new mothers.

“The data gathered through this survey will have a lasting legacy, informing how states across the U.S. expand health care to new mothers in a crucial phase of their and their babies' lives,” professor Heidi Allen said. Professor Jamie Daw added: “As researchers, we have a critical role to play in putting the data in the hands of decision-makers during this rare policy window.”

At a Glance

[Leveraging Policy to Improve Maternal Health in the Fourth Trimester](#)

PROJECT LEADS

- + Heidi L. Allen
Columbia University
- + Jamie Daw
Columbia University
- + Kristen Underhill
Cornell University

STATS

- + 7 health departments in six U.S. states and New York City are partnering with CWP on the Postpartum Assessment of Women Survey, a first-of-its-kind survey of new mothers
- + 77%: Response rate to the Postpartum Assessment of Women Survey, which is evaluating postpartum maternal health across the U.S.



Fostering Safe Cooking Practices in Ghana

Nearly three billion people worldwide use traditional cookstoves and fuels. The resulting air pollution leads to an estimated 3.8 million preventable deaths per year. In Ghana, about 70 percent of households cook using wood, charcoal and crop residue in open fires. Despite significant public and private investment over the last decade to encourage the use of clean cookstoves, new approaches are needed to achieve substantial improvements in air quality and health.

The Columbia World Project *Combating Household Air Pollution with Clean Energy (CHAP)* takes a new, comprehensive and multidisciplinary approach to address the problem.

This past winter, a team of researchers from Columbia and other universities and organizations in the United States and Ghana took a major step forward, surveying more than 7,300 households in Ghana on their cooking and energy use and the factors that would encourage them to use newer, safer

SPOTLIGHT: FOSTERING SAFE COOKING PRACTICES IN GHANA

technologies. The survey, the National Household Energy Use Survey, was completed despite the COVID-19 pandemic, using rigorous protective measures. The survey results will provide crucial data to inform the next stages of the project, which aims to increase the adoption of innovative clean cooking technologies that reduce household air pollution—and potentially save lives.

“

The National Household Energy Use Survey will give us crucial information on how Ghanaians currently use energy in their homes, as well as their perceptions and priorities regarding safe cooking practices. These are all essential to identifying how to encourage life-saving clean cooking technologies,” said Darby Jack, a project lead.

An interdisciplinary team led by Kwaku Poku Asante, Darby Jack and Kelsey Jack manages the project. The team is using their wide-ranging backgrounds in public health, epidemiology and behavioral economics to assess why attempts to introduce clean cooking technologies in Ghana have not yet had the expected success.

The project team is also conducting studies to further assess factors that would encourage people to purchase clean cooking fuels. Among these is understanding how uptake is affected both by the distance people have to travel to get to a location that sells clean fuel and by fuel price.

“The data from our national survey, along with other project activities, position us to take the next big step in shaping an intervention to address the severe impact of cooking practices on health in Ghana. We are excited to have nationally representative data that all stakeholders can use,” said Asante.

At a Glance

[Combating Household Air Pollution with Clean Energy](#)

PROJECT LEADS

- + **Kwaku Poku Asante**
Kintampo Health Research Centre
- + **Darby Jack**
Columbia University
- + **Kelsey Jack**
University of California, Santa Barbara

STATS

- + 7,300 + : Number of households surveyed for the National Household Energy Use Survey in Ghana, assessing cooking practices in order to support clean cooking technology
- + 3.8 million: Estimated deaths per year from pollution caused by inefficient use of solid fuels and kerosene for cooking



ACToday: Adapting Agriculture to Climate Today, for Tomorrow

ACToday, the first Columbia World Project, aims to combat hunger in six countries that are particularly dependent on agriculture and vulnerable to the effects of climate change and fluctuations: Bangladesh, Colombia, Ethiopia, Guatemala, Senegal and Vietnam.

The project achieves this by building systems to ensure that meteorological agencies in those countries can produce the most accurate climate information and that individuals and institutions in the agricultural sector have access to that knowledge—and can use it to grow more food to feed more people. The project focuses on ensuring that relevant forecasts make it into the hands of farmers who can use them to predict both extreme weather that could damage agriculture, as well as favorable conditions that could lead to good harvests.

The ACToday team of researchers from Columbia Climate School's International Research Institute for Climate & Society (IRI) brings expertise in climate science, nutrition and sustainable development. The team works in partnership with the CGIAR Research Program on Climate Change, Agriculture & Food Security (CCAFS), the World Food Programme, the Food & Agriculture Organization of the United Nations, the World Bank and others.

Tools developed by ACToday are directly enabling the World Food Programme to reach its target of ensuring that one million smallholder farmers have affordable insurance by 2022. ACToday has held more than 110 trainings in six countries, reaching over 2,150 participants since the project began in 2017. The trainings have helped stakeholders in ACToday countries develop climate forecasts and mapping tools and to use these tools for more effective national food security planning and policy.



At a Glance

ACTIVE COUNTRIES

- + Bangladesh
- + Colombia
- + Ethiopia
- + Guatemala
- + Senegal
- + Vietnam

PROJECT LEADS

- + **Walter Baethgen**
Columbia University
- + **John Furlow**
Columbia University

STATS

- + 2,150 + participants have taken part in ACToday trainings
- + 110 + trainings in six countries have been led by ACToday to foster enhanced food security planning and policy
- + 6: All six ACToday countries have adopted new ACToday-supported forecasting systems in their national meteorological agencies and an additional 10 countries have requested similar enhancements

Building Resilient Infrastructure in the Dominican Republic

The occurrence and severity of natural disasters in the Dominican Republic and across the Caribbean is increasing as a result of climate change, and low-income urban neighborhoods in particular are suffering as a result.

At the same time, the current physical infrastructure that provides basic services, such as power, water and internet to urban residents of the Dominican Republic is severely strained.

This project aims to strengthen the Dominican Republic's ability to confront natural disasters. The project's interdisciplinary experts are developing a blueprint for a first-of-its-kind resilience center in Santo Domingo, the Dominican Republic's capital city, and documenting lessons learned to guide other communities in creating similar centers.

In the wake of natural disasters, local resilience centers can provide life-sustaining services like electricity and water, as they are less prone to large-scale outages than centralized facilities.

The project is developing a blueprint for a new resilience center in Cristo Rey, a neighborhood of Santo Domingo. It will assess current gaps and opportunities with the digital, physical, social and policy infrastructure, and propose recommendations for how to transform an existing structure in the community into a multifunctional resilience center.

The project will provide a rubric for other communities in the Dominican Republic and around the Caribbean in need of innovative approaches to addressing the realities of climate change.



At a Glance

PROJECT LEADS

+ **Jesús D'Alessandro**

Ayuntamiento del Distrito Nacional de Santo Domingo

+ **Kalil Erazo**

Instituto Tecnológico de Santo Domingo (INTEC)

+ **Richard Plunz**

Columbia University

+ **Esteban Gonzales Reyes**

Universidad Iberoamericana (UNIBE)

STATS

+ **\$345 million:** Estimated annual average loss caused by hurricanes in the Dominican Republic

Hurricane Risk Models for Vulnerable Populations

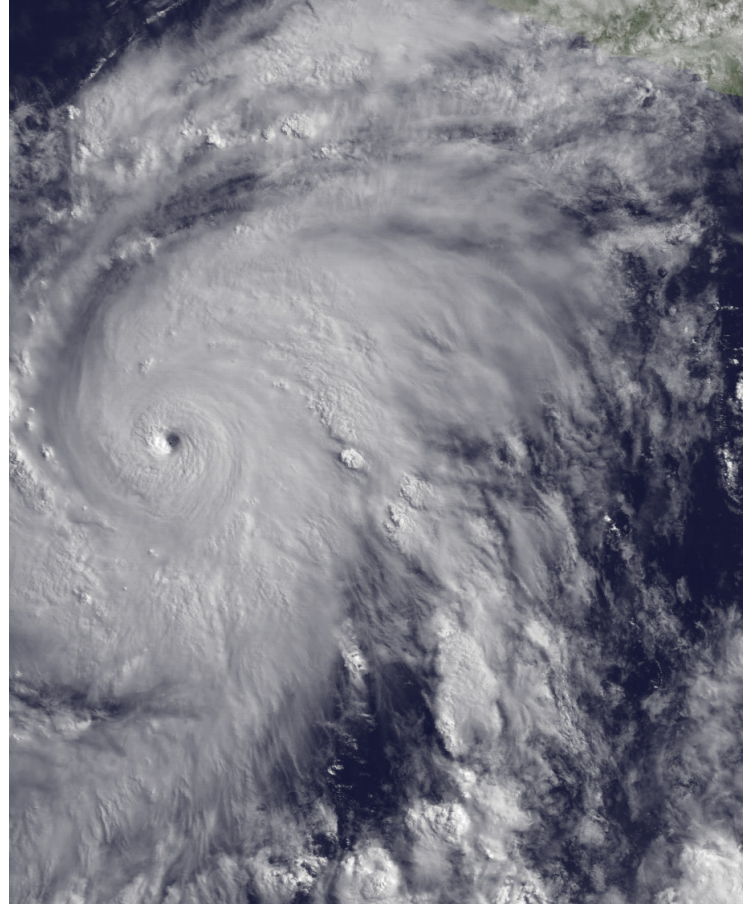
Climate change, population growth, urbanization and development in natural hazard-prone regions are exacerbating the effects of extreme weather and other disasters.

This Columbia World Project is further developing, testing and implementing an open-source model to more accurately forecast the risk of hurricanes and tropical cyclones, as well as the damage that they would likely cause for vulnerable communities.

It is estimated that \$924 billion in insured losses resulted from tropical cyclones in the past decade. International organizations, governments, the private sector and financial institutions expend billions of dollars responding to such disasters, but the models they rely on to plan for and respond to such events suffer from significant limitations. Importantly, they generally fail to account for climate change; are not transparent about their methodology; and focus on risks for the insurance industry rather than on the damage that vulnerable communities will sustain.

For this project, Columbia researchers are partnering with the World Bank to broaden the understanding of the real consequences of natural disasters on the poor, breaking new ground in how damage is calculated. The project is also leveraging the insurance industry's experience to improve the responsiveness of risk models to climate change.

The work is focusing on the Philippines, a country that is vulnerable to severe hurricanes and tropical cyclones, but with a broader goal of setting a new standard of openness, scientific rigor and community engagement in the field of disaster preparedness and response.



At a Glance

PROJECT LEADS

- + **Suzana Camargo**
Columbia University
- + **Chia-Ying Lee**
Columbia University
- + **Kyle Mandli**
Columbia University
- + **Adam Sobel**
Columbia University
- + **Michael Tippett**
Columbia University

STATS

- + **\$924 billion:** Amount in globally insured losses caused by tropical cyclones in the past decade

The Room to Grow Model: Closing the Opportunity Gap for Young Children in Low-Income Families

Education and social services systems in the United States frequently fail to provide adequate support for low-income children in early childhood.

Children from low-income households often enter kindergarten a full developmental year behind their peers and more than 80 percent of children from low-income families struggle with reading throughout elementary, middle and high school. Children who grow up in low-income households are more likely than their higher-income peers to experience poverty and other adverse outcomes well into adulthood.

This CWP project is a partnership between Columbia University researchers and the organization Room to Grow, which offers coaching to parents, free baby and toddler items, and community connections during the first three years of a child's life. The project is conducting a critical study that is following 317 mothers and children from birth, when they first enter the Room to Grow program, through age three-and-a-half. The study aims to measure changes in vocabulary development, executive function, child behavior, parent-child interaction, parental efficacy, maternal mental health and well-being, and the safety of the home environment, among other areas. In addition, the team will link the data gathered to school and other available records to track the participants' progress over time.

The team will disseminate their findings to guide policy decisions and provide evidence for practitioners in education, philanthropy and related fields, providing critical insights about combating poverty and income inequality both in the U.S. and worldwide.



At a Glance

PROJECT LEADS

- + **Jeanne Brooks-Gunn**
Columbia University
- + **Akilah King**
Room to Grow
- + **Jane Waldfogel**
Columbia University
- + **Christopher Wimer**
Columbia University

STATS

- + 41% of children in the United States are living at or near the poverty line
- + 80% or more of children from low-income families struggle with reading throughout elementary, middle and high school

Transforming Wastewater Infrastructure in the United States

Across the U.S., wastewater and sanitation systems are failing, contaminating water supplies and harming ecosystems.

Many rural areas across the country, such as the Black Belt region in Alabama, do not have access to sewers and centralized wastewater treatment offered through public utilities. The vast majority of septic systems in this region function poorly or are failing due to unsuitable soil conditions.

This project is piloting a new approach to wastewater treatment in rural Alabama to demonstrate that improved wastewater treatment technologies and management models can yield health, economic and environmental benefits for rural communities in the U.S. and around the world. The project is testing and scaling wastewater treatment systems in several communities in the region. These systems will connect neighboring homes and businesses on a single system that collects, treats and re-uses water, reducing upkeep costs. The project will collect data before and after system installation to measure the impacts of improved wastewater treatment.

The project is also developing a national database and machine learning tools that will help identify and predict where across the U.S. there is increasing need for effective and affordable wastewater services. Information on how to manage and sustain wastewater treatment systems will be collected and disseminated to governments and rural communities around the world affected by this problem.

The project aims to provide immediate benefits to households at the pilot sites, including demonstrable improvements in public health and a reduction in toxic discharges to the environment. It will also provide a model for transitioning to more resilient and sustainable wastewater infrastructure, which could be deployed throughout Alabama, the U.S. and the world.



At a Glance

PROJECT LEADS

- + Maura Allaire
University of California, Irvine
- + Joe Brown
University of North Carolina
- + Mark Elliott
University of Alabama
- + Upmanu Lall
Columbia University
- + Kevin White
University of South Alabama

STATS

- + 90% of septic systems in Alabama's Black Belt are functioning poorly or failing due to unsuitable soil conditions

Using Data to Catalyze Energy Investments

More than 800 million people worldwide, many of whom live in sub-Saharan Africa, do not have access to electricity. Achieving access to it is critical for expanding economic opportunity, ensuring food security and reaching other key measures of human development.

Research and investments tend to focus on improving energy access in homes, schools and health facilities, with less emphasis on providing energy access for income-generating activities, such as farming and small businesses. To address this gap, Columbia World Projects is working with the United Nations Capital Development Fund (UNCDF) and the Government of Uganda to map existing energy sources in Uganda and identify possible areas where energy investments would benefit the local economy. The goal is to provide easily accessible information to investors and policymakers that will ultimately lead to investments in the expansion of productive, income-generating activities, such as irrigation, small-scale farming, food processing and storage, light industry, and other energy services.

Through partnership and innovative data collection and analysis, the project aims to unlock economic opportunities across sub-Saharan Africa and beyond.



At a Glance

PROJECT LEADS

- + Philippe Benoit
Columbia University
- + Vijay Modi
Columbia University
- + M. Suresh Sundaresan
Columbia University

STATS

- + 2,000+ km² of land in Uganda were surveyed for this project to assess where new energy investments could be made



Training the Next Generation of Leaders

The Obama Foundation Scholars Program at Columbia University brings together rising leaders from the United States and around the world who have demonstrated a commitment to finding solutions to challenges in their communities, countries and regions.

Obama Foundation Scholars complete a one-year residency at Columbia World Projects, deepening their knowledge and skills, and building new capacities and networks uniquely available at Columbia University to accelerate their potential impact in their communities. The program was developed in response to the need to offer leadership training opportunities for rising global leaders. It is central to CWP's mission of putting Columbia research into action by training the next generation of global leaders to bring about worldwide change.

“Witnessing the powerful impact of this program on the remarkable individuals participating as Obama Foundation Scholars, and the communities they are dedicated to changing, has left Columbia even more deeply invested in this special endeavor and all that it can accomplish.”

LEE C. BOLLINGER, PRESIDENT AND
SETH LOW PROFESSOR OF THE UNIVERSITY, COLUMBIA
UNIVERSITY

Scholars participate in a robust, immersive program that includes networking, guidance from Columbia faculty advisors and values-based leadership development, among other activities. These experiences enable the Scholars to learn from some of the world's most innovative leaders and build connections with the Obama Foundation and Columbia University.

The 2020–2021 cohort of Scholars, who hail from 11 countries worldwide, engaged with more than 14 Columbia schools, centers and departments; worked with 11 Columbia faculty members; and audited 48 courses during their year as Scholars.

Scholars take part in customized Columbia and Obama Foundation-led workshops, including:

- + *Data science bootcamp with Columbia University's Data Science Institute*
- + *Oral history workshop with the Center for Oral History Research and the Interdisciplinary Center for Innovative Theory & Empirics (INCITE) at Columbia University*
- + *Public Speaking for Professionals and Taking the Stage workshops led by Andrea Haring, Executive Director of The Linklater Center for Voice & Language*
- + *Pitch Visualization and Design Your Future workshops with Columbia Entrepreneurship, Innovation & Design*
- + *Conflict training workshop with Peter Coleman, Co-Executive Director of the Advanced Consortium on Cooperation, Conflict & Complexity at the Earth Institute, Columbia University*
- + *Writing workshop with Lis Harris, Chair of the writing department, Columbia School of the Arts*
- + *Resilient leadership workshop with Jalana Harris, a licensed psychotherapist, certified hypnotherapist, certified life coach and consultant who works toward the social, emotional and psychological development of traditionally oppressed populations*

MEET THE SCHOLARS

46 Scholars from 36 countries across six continents have participated in the Obama Foundation Scholars program since it began in 2018. Meet four Scholars who have drawn on their experience to enact change in the world, adapting their work in the context of the COVID-19 pandemic.



Kirsten Brosbøl

In fall 2020, Kirsten Brosbøl, a 2019–2020 Obama Foundation Scholar, launched [2030beyond](#), an organization that connects parliamentarians around the world to help achieve the United Nations 2030 Sustainable Development Goals. “Coming to Columbia,” Brosbøl said, “was quite transformative for me because it meant that my focus completely shifted from a national to an international or global focus.”



Rumbidzai Chisenga

Rumbidzai Chisenga, a 2018–2019 Obama Foundation Scholar, now addresses the underrepresentation of women in public leadership in Africa through her work on the [Amujae Initiative](#), part of the Ellen Johnson Sirleaf Presidential Center for Women and Development. “I was surrounded by seven other strong women leaders in my cohort,” Chisenga said. “Living and learning with these women who are confronting various entrenched issues in their own societies” affirmed that “women hold the keys to the transformation of our societies.”



Hong Hoang

Hong Hoang, a 2018–2019 Obama Foundation Scholar has worked for more than 20 years raising public awareness and engaging communities to tackle climate change, pollution and the illegal wildlife trade in her native Vietnam. Hoang recently joined G100, an empowered group of 100 women leaders from across the world, as Global Chair for Wildlife and Biodiversity. “My experience as an Obama Foundation Scholar was crucial in launching the next stage of my career confronting climate change and other environmental challenges in Vietnam,” Hoang said.



Christian Vanizette

Since the onset of the COVID-19 crisis, 2019–2020 Obama Foundation Scholar Christian Vanizette pivoted the work of [Makesense](#), an organization he co-founded that aims to connect engaged citizens, entrepreneurs and organizations to build an inclusive and sustainable society online. Makesense quickly adjusted to the pandemic and grew from around 50 volunteers to more than 2,000 per week in each of the six countries where it operates. As a result, volunteers helped half a million people around the world affected by the pandemic. “The Obama Foundation Scholars Program really informed how we operate,” Vanizette said.

Harnessing Columbia University's Convening Power

Columbia World Projects (CWP) draws on the university's expertise and global footprint, bringing together experts for cross-disciplinary gatherings that address global challenges and foster change.

CWP convenes scholars and thought leaders from academia and beyond for expert meetings to discuss critical challenges that no single discipline or approach can successfully address. CWP turns the ideas that emerge from these meetings into action by issuing reports, developing learning materials for professionals, hosting public events and high-level discussions with decision-makers, building partnerships with organizations that drive change and launching projects that draw on participants' insights and recommendations.

To date, CWP has hosted more than 1,200 experts—including more than 575 thought leaders from government and the private and non-profit sectors and more than 600 academics—in forum meetings, convenings and planning workshops. In addition, faculty from 18 Columbia schools and affiliates and 21 centers and institutes have participated in CWP-led convenings.

KNOWLEDGE SHARING AND GENERATION

Highlights of these expert convenings include:

- More than **300 academics and 263 experts** from foundations, government, NGOs and the private sector have taken part in **35 meetings** focused on identifying solutions to three primary focus areas: **what sustains and ails liberal democracies** around the world and how to revitalize democratic institutions that appear fragile and fraying; the **conditions under which urban communities achieve social, economic and political inclusion**; and **how projects that aim to improve people's lives succeed** and possibilities for their continuous improvement and replication. Public events built on these closed-door convenings have been viewed by more than 13,500 people in person and online.
- Secretaries of four U.S. states—**Georgia, Michigan, Pennsylvania** and **Washington**—participated in recent CWP meetings on the future of American election infrastructure.
- CWP, **in partnership with the American University of Beirut, organized a series of high-level convenings** to examine how to center the needs of local communities in the **reconstruction of Beirut following the port explosion** on August 4, 2020. By assembling **experts who have led and studied reconstruction efforts** in cities recovering from disaster across the globe alongside Lebanese academics and practitioners, the initiative arrived at priorities and principles that ought to underlie reconstruction as well as concrete interventions that should be taken up by the World Bank and others involved in reconstruction efforts.
- After holding an expert workshop, CWP released a report identifying **key opportunities and challenges in offshore carbon capture and storage**, the practice of trapping and disposing of carbon dioxide in rock below the seafloor to reduce the amount of this greenhouse gas in the atmosphere. The report's findings aim to pave the way for development of the future policy framework, technical needs and large-scale infrastructure investments required to capture and store carbon dioxide at scale and **help mitigate the climate crisis**.
- CWP has held **seven forum meetings** since 2018 to generate and refine ideas for innovative, new projects to launch around the world. The events brought together **more than 200 experts** from Columbia, the private sector, non-profits, governmental and multilateral organizations to consider major challenges in areas that include **COVID-19, cybersecurity, decarbonization, disaster preparedness, energy access, maternal health and unequal opportunity**. Participants' cross-disciplinary thinking on these challenges has been published in **public reports** and the meetings have generated **CWP projects** around the world.
- CWP held an experts' roundtable in September 2020 on concrete steps the U.S. Congress can take to mitigate the disproportionate economic impact the **COVID-19 pandemic has had on minority-owned small businesses**. A report summarizing the roundtable and the specific recommendations put forward by participants was **disseminated to key members of Congress** to inform ongoing discussions around legislation to provide additional support to small businesses during the COVID-19 pandemic.
- CWP released a report in March 2021 to **advise the New York City Civic Engagement Commission** on the adoption, launch and continued use of a digital platform to foster connections between residents and the city government. The report, which emerged from a series of working groups convened by CWP, summarizes the meetings and outlines concrete recommendations both to **empower residents to engage city government** and to **cultivate more responsive governance structures**.



The Civic Engagement Commission is deeply grateful to Columbia World Projects for facilitating a rare and special set of convenings of multi-sector experts to build civic participation, enhance civic trust and promote democracy in New York City.”

**SARAH SAYEED, CHAIR AND EXECUTIVE DIRECTOR,
NEW YORK CITY CIVIC ENGAGEMENT COMMISSION**

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