

The University of Virginia's Yamuna River Project is an inter-disciplinary research program whose objective is to revitalize the ecology of the Yamuna River in New Delhi, thus reconnecting India's capital city back to the water. Through engaging the efforts of government agencies, experts and activists, in India and internationally, The Yamuna River Project pursues an ongoing investigation addressing the multidimensional challenges for the recovery of the relation between Delhi and its sacred River Yamuna.

The 2016 - 2017 academic year marked the first year of the Yamuna River Project as a pan-university project after three years based at the School of Architecture. The project was founded by Professors Iñaki Alday and Pankaj Vir Gupta in 2012 as "Re-Centering Delhi" research project and design studio with students from the Architecture, Landscape Architecture, and Urban and Environmental Planning Departments. Today, the project has progressively grown to incorporate students and faculty from the College of Arts and Sciences and other university departments.

YAMUNA RIVER PROJECT ANNUAL REPORT 2017

YAMUNA RIVER PROJECT

ANNUAL REPORT

2017

ABOUT YRP

The 2016 - 2017 academic year marked the first year of the Yamuna River Project as a pan-university project at the University of Virgina after three years of being based at the School of Architecture. The project was founded by Professors Iñaki Alday and Pankaj Vir Gupta in 2012 as “Re-Centering Delhi”, a research project and design studio with students from the Architecture, Landscape Architecture, and Urban and Environmental Planning. The project has progressively grown to incorporate students and faculty from the College of Arts and Sciences and other departments at the university.

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New Delhi—as the capital city of the world’s largest democracy, with a population of almost twenty million—faces an unprecedented challenge: its sacred river, the Yamuna, is one of the most polluted in the world. The entire quantum of fresh water flowing into New Delhi is redirected to fulfill the fresh water requirement of the city. From the Wazirabad barrage where it enters the capital city, to the Okhla barrage where it exits, the Yamuna consists of only treated and untreated sewage and other toxic effluent. The water is rendered “dead”, with zero oxygen, posing serious health hazards to the citizenry of New Delhi.

The condition of the water in Delhi is an indicator of the last 50 years of urban development—a period during which

the Yamuna and its tributaries have been erased from the consciousness of the city, with the floodplain becoming its unplanned backyard. This has become an unprecedented and urgent crisis of ecological inequality and a serious threat to the health of the entire population. It can only be reversed by sustained remedial action, encompassing all the complex components of the city: social, cultural, health, economics, ecology, public space, public facilities, housing, governance, and infrastructure.

The Yamuna River Project aims to be a catalyst for the urgent recovery of the Yamuna and its tributaries, building a publicly accessible body of information and expertise, and developing multi-disciplinary visions of what an alternative future would be. Through engaging government agencies, experts, and environmental activists, in India and internationally, the Yamuna River Project engages with the multidimensional challenges for the recovery of the relation between Delhi and its sacred River Yamuna.

www.yamunariverproject.org

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AN ESSENTIAL FUTURE

Iñaki Alday, Pankaj Vir Gupta

The Yamuna River Project (YRP) aims to help the city of New Delhi and its citizen stakeholders reimagine and transform the sacred, yet polluted Yamuna River as it flows through India's capital. The Yamuna River Project confronts the dilemmas of Delhi's urban reality, with a precise, analytical, multi-disciplinary, research-based methodology. This approach facilitates a dynamic collaboration between the intellectual speculations generated within a University and their application for a range of knowledge partners governing a city, including municipal authorities, political leaders, citizens' advocates and non-government organizations.

As one of the most rapidly urbanizing mega-cities in the developing world, New Delhi confronts serious challenges, revealing inadequacies in planning, urban design, and social equity. These limitations are emerging at a time of economic uncertainty and ecological fragility. As a result, the citizens of the world's largest democracy live amidst unprecedented environmental degradation. Existing governance structures have been hard pressed to keep up with the pace of the complex, rapidly evolving dynamics of climate change. Toxic air and septic waters are simply collateral damage in this circumstance. Overburdened public health systems are fraying as more citizens are exposed to the adverse consequences of these environmental ills in daily life. These millions continue to suffer, often silently, as they inhabit, without recourse, these imperfect urbanites.

The Yamuna River is a living ecological entity with her own seasonal cycle of flow, complex hydraulic dynamics, and shifting floodplain territory. For centuries, the river has existed as a significant geographic presence within the northern Indian landscape. For centuries, the river constituted not just the defining axis, but also the ecological and agricultural lifeline of the many settlements preceding

present day Delhi. In this age, characterized by geologists as the Anthropocene—when patterns of human settlement are significant influencing forces on environment and climate—urban populations in mega-cities have far exceeded the carrying capacity of their designed infrastructure. In New Delhi, the Yamuna has been reduced to a poorly managed sewage drain, absent both from the urban landscape and from the public imagination. The fight for citizens' survival inflicts even deeper damage to an already fragile ecological circumstance. Urban development justified in the name of civic prosperity is often misleadingly defined in opposition to environmental security. In the hardscrabble urbanity of the present India megacity, there is little room for the ecologically sacred. Delhi's citizens are now completely detached from their river, only part of a larger detachment from the formerly shared consciousness of public space, and, in fact, from the concept of a 'commons'. This detachment is the underlying cause of Delhi's environmental dilemma.

The legal protections offered to the Yamuna (and to the Ganges river), entrusted with the rights of living entities, fail to deter the agencies that poison them. This contradiction reflects the dilemmas of a complex society, confronting a critical moment of exponential population growth, social inequality and convoluted municipal governance. The perennial flows of raw sewage from the capital city into the Yamuna, are simply a reflection of the inequity of a city without planning, with a severe lack of infrastructure. Thus, the floodplain of the Yamuna reveals urban slums of unprecedented density, without any provision for the safe supply of drinking water, nor for sewerage treatment, without education and health facilities. This disenfranchised population, encroaching upon the floodplain, scraping a meager livelihood from the margins, suffers again from an unrelenting cycle of monsoon floods.

The restoration of a healthy equilibrium between the river and the city is also a matter of survival. India faces the consequences of climate change on enormous scale, with monsoon floods killing thousands of people every year, and causing significant damage to urban infrastructure, ruining lives and livelihoods. The consequences of a one hundred-year flood event—likely to occur more frequently with increasing global warming—will be devastating. Urban sprawl, fueled by the lack of planning, has reduced the available forest cover; ecological and agricultural area per inhabitant in the National Capital Territory of New Delhi has shrunk dramatically in the past few decades. The reduction of forested area, diminished local food production and poor soil permeability, has created a social and ecological crisis of extreme urgency. The effects of climate change are seen not only in more recurrent floods, but also in droughts and heat island effects with substantial impact on the most vulnerable populations.

YRP has sought to engage this dilemma with a multifaceted approach. Applying broad based, intellectually diverse, research experience, YRP has forged a credible partnership with existing governance structures, and established a paradigm for influencing significant remediation policies. Developing a transparent, collaborative and open-source methodology, the project functions as a critical front for the confluence of academic leadership, with cultural, environmental, and political systems of governance.

The dilemmas of New Delhi—or for that matter, any Indian or global megacity—a critical level of air and water pollution, scarcity of affordable housing, acute shortage of community space, are not radically different from the dysfunction of some European river cities only a few decades ago. Although Delhi and the Yamuna represent an acute urban crisis, this is only one of the many similar crises

on the planet, in which a lack of planning, rapid growth and climate change redounds as a lack of basic infrastructures and cultural attachment. The resulting social inequality is dramatically visible in the ecology of an environment that once was the reason for the city to exist—its rivers—and in the pollution of the most precious substance for life—its waters.

The remedy for New Delhi's defiled Yamuna, and her once sacred waters, will need to holistically address the causes of pollution, and redress the inequality within the city. The Yamuna River Project seeks to foster this change. We recognize a basic fact of the Anthropocene era—the cities that we design and make now, are the cities that we shall inhabit in the future and with which the planet itself shall have to live. It is present day human intent and intervention that shall ensure the sustainability and survival of the future city—a city predicated on our ability to secure ecology from our own advances. We therefore equate social prosperity with ecological stewardship. The Yamuna and all its tributaries, the flows and the floodplains, are the base for reformulating Delhi's commons. They are to become the public space and ecological spines of the new socio-ecological structure of the city.

We have marshaled the resources of the University of Virginia and forged an innovative collaboration with the Delhi Jal Board, generating meaningful solutions for the crises afflicting the Yamuna River. Developing a transparent, collaborative, and open-source methodology, the Yamuna River Project functions as a critical front for the confluence of academic leadership, and cultural, environmental, and political systems. We are optimistic that many restorative opportunities are latent in the neglected space of interaction between River and City and that New Delhi can forge another identity, a commitment to a new ecology.



The Dead Yamuna River - Lauren Nelson

IMPACT AND RESEARCH

YRP is in its sixth year of engaging in multi-disciplinary research across the University of Virginia with disciplines such as architecture, the arts, economics, environmental sciences, humanities, landscape architecture, public health, planning, politics, social sciences, and urban design.

In the past year, our research has had a tremendous impact in New Delhi resulting in a research agreement between the University of Virginia and the Delhi Jal Board as well as numerous public endorsements from government officials.

YRP will continue to expand and deepen our research engagements across disciplines and relationships with decision makers in India.

ACCOMPLISHMENTS

- ▼ Signed of a five year Memorandum of Understanding between the Delhi Jal Board and the University of Virginia.
- ▼ YRP Directors Iñaki Alday and Pankaj vir Gupta were appointed advisors to the Delhi Jal Board.
- ▼ The Lieutenant Governor of Delhi has recommended constituting the “Yamuna River Rejuvenation Authority Working Group” composed of a five member leadership committee including a UVA YRP representative.
- ▼ Officials in the Delhi Government publicly support and advocate for sustained research collaborations between the Delhi Government and UVA.
- ▼ YRP continues to engage many departments across UVA and is actively supporting interdisciplinary teaching and research efforts.

Yamuna River Floodplain Restoration - Eric Barr

IMPACT

Memorandum of Understanding

After a series of meetings between officials in the Ministry of Water Resources in the Indian Government, the Delhi Government and Municipal agencies, and The University of Virginia, a Memorandum of Understanding, was signed on July 2016. This five year arrangement facilitates cooperation between UVA and the Delhi Jal Board in efforts to rejuvenate the Yamuna.

YRP to advise Delhi Jal Board

In recognition of the value of the Yamuna River Project research, the Delhi Jal Board appointed Yamuna River Project Directors Iñaki Alday and Pankaj Vir Gupta as advisors to the Delhi Jal Board.

Delhi Jal Board Official visits UVA

Mr. R S Tyagi, Member of the Delhi Jal Board, visited the University of Virginia in support of DJB's continued collaboration with UVA and the Yamuna River Project.

Yamuna River Rejuvenation Authority Working Group

The Lieutenant Governor of Delhi is considering the constitution of a new “Yamuna River Rejuvenation Authority Working Group” with Mr. R S Tyagi, formerly Member of the Delhi Jal Board, and four other members to form a leadership committee. The Yamuna River Rejuvenation Authority Working Group will advocate for the stewardship of the Yamuna River Project within the governance structure of New Delhi. A representative from the UVA Yamuna River Project will serve as a permanent member of the working group.

Cross-disciplinary Research Initiatives

Yamuna River Project has engaged and supported research across departments at the University of Virgina in subjects such as Water Economics, Environmental Sciences, and Art History. The project will continue to expand across the university and incorporate new disciplines into its research.



Jeffrey Legro (UVA) and Keshav Chandra (Delhi Jal Board) sign MOU



Pankaj Vir Gupta briefs US Senator Tim Kaine on YRP in New Delhi



Lieutenant Governor of New Delhi, Anil Bajjal, exhibition guest of honor

RESEARCH PROJECTS



Arts

Dan Ehnbom

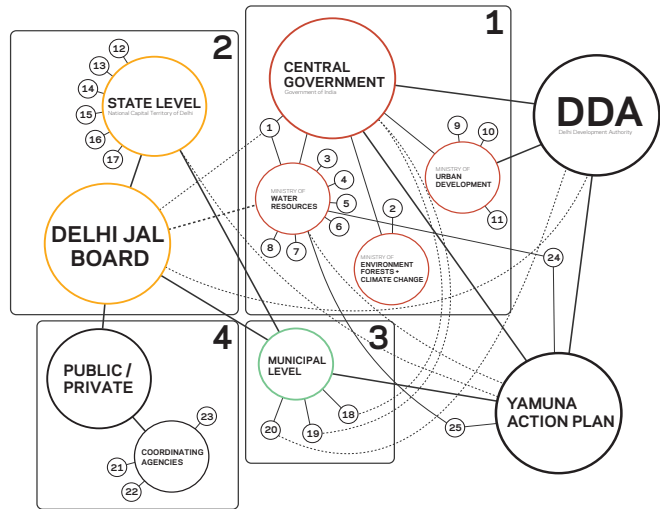
A study of how the Yamuna River occupied the Indian consciousness as an important subject in Indian art from at least the fourth or fifth century and how the river continues to be the subject of contemporary art investigations for multiple disciplines.



Environment

Matt Reidenbach

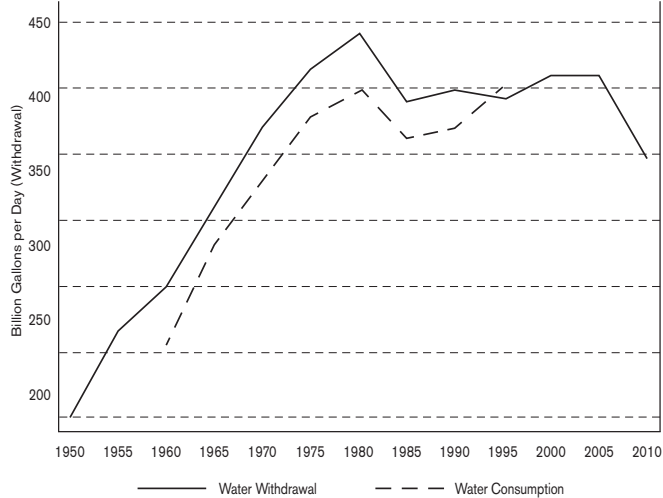
Utilizes remote sensing and aerial data obtained from LANDSAT satellites in order to determine how human populations within the New Delhi region have expanded and how land use has changed over the last decades. This information is critical for future urban planning and hydrological modeling efforts of the Yamuna River System.



Politics

John Echeverri-Gent

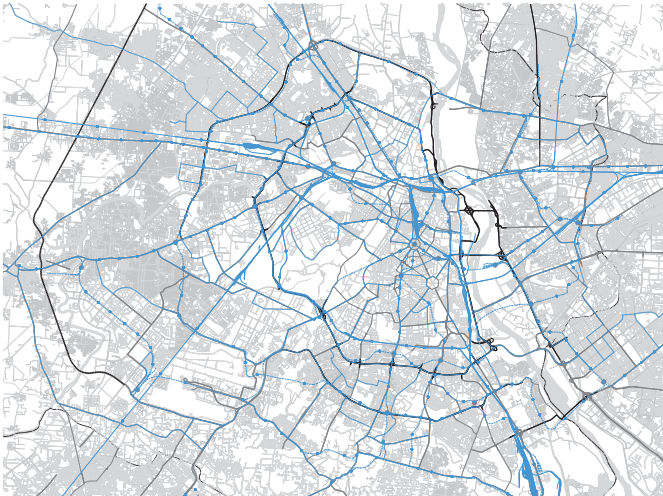
Analysis of the governmental bodies, municipal agencies, and NGOs which have authority over aspects of the Yamuna River. This research was influential in the formulating of The Yamuna River Rejuvenation Authority Working Group by identifying scope overlaps and governmental inefficiencies while clarifying decision making processes.



Economics

Peter Debaere

Research paper on urban water policy proposing that water challenges is not just a question of improving supply but that giving water an explicit price will have to be part of how we guarantee water use in the future.



Infrastructure

Re-Centering Delhi Research Team

Mapping of Delhi's public transportation and road networks to identify points of intermodality, areas that are underserved by public transportation, and the effect of transportation infrastructures on the urban fabric.



Water

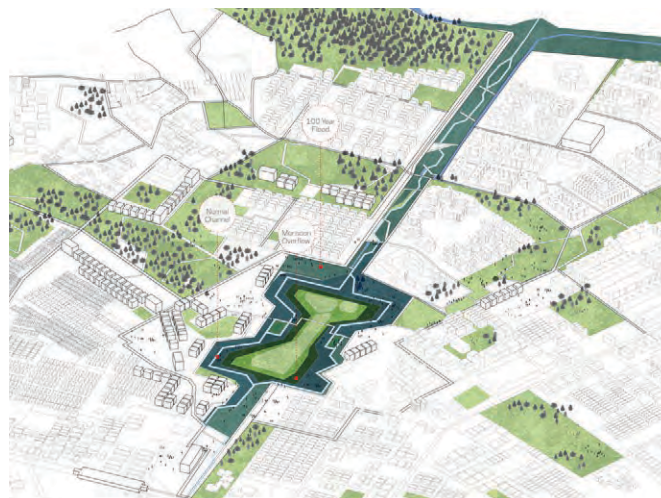
Winston Lung

Measurement and study of Delhi's drains and the Yamuna River's Biochemical Oxygen Demand (BOD). This research identifies the Yamuna River's pollution sources and informs remediation strategies that focus on treating the sources of water pollution.



Urban Design: Floodplain Recovery
Xiaonian Shen

This project proposes to recover the Yamuna floodplain marsh by treating it as a productive resource and ecological zone for the city; integrating the marsh with the surrounding community instead of using walls to isolate and “protect” it.



Urban Design: Subdrain Linear Park
Sosa Erhabor and Andrew Morell

This project transforms underutilized lots and parks in Hastal Village into a larger, continuous park system by converting the subdrains into a green passageway that connect many neighborhoods in southwest Delhi.



Urban Design: Yamuna River Commons
Shannon Ruhl

A new public park, ghat, and cremation grounds are proposed on abandoned industrial land adjacent to the Yamuna River, providing essential cultural space and providing access to the river.



Urban Design: Neighborhood Public Amenities
Sean Sullivan

This project connects East Delhi to the Yamuna floodplain, develops a 7.5 km linear park along a highway for pedestrian use, enhances existing public markets and adds public facilities such as toilets, laundry facilities, and community centers.



Urban Design: Heritage Revitalization
Joey Laughlin

Building off a proposed extension of a new cultural corridor along the Yamuna river, a new public library and performing arts center brings relevance and accessibility to Purana Qila, a dilapidated fort located in the center of the capital.



Urban Design: Social Housing
Andrew Shea

An underutilized regional rail station is linked with two nearby metro stations to create an intermodal transportation hub while also incorporating a new affordable housing development along the regional rail embankment.

ONGOING RESEARCH PROJECTS

Research Projects

Winston Lung - Engineering

Water quality modeling in the Najafgarh Drain. Collaborating with Delhi Jal Board Engineers and Mriganka Saxena, Jal Board Planner.

Matt Reidenbach - Environmental Sciences

Hydrological model of the Supplementary Drain area. Collaborating with Mahesh Patel, PhD from IIT Guwahati, who specialized in Water Resources Engineering and Management.

Bala Mulloth - Batten, Social Entrepreneurship

Study of social entrepreneurship along the Yamuna’s banks.

Andrew Mondschein - Urban and Environmental Planning

Eric Field - School of Architecture

Digital model of walkability in Delhi for areas adjacent to the Supplementary Drain.

Guoping Huang - Urban and Environmental Planning

Geographic information system (GIS) model for Delhi to analyze development and growth scenarios. Will analyze land use, transportation corridors, and ecology.

Pankaj Vir Gupta & Iñaki Alday - Architecture

Urban Design study of the 58km long Najafgarh Drain and the 7km long Supplementary Drain between Bhalswa landfill and the Yamuna.

Michael Allen - Religious Studies

Mapping spiritual sites along the Yamuna’s banks in Delhi such as crematoriums, ghats, and pilgrimage sites.

Spencer Philips - Environmental Economist

Systems model that studies greenhouse gas emissions in New Delhi. Will analyze how the Yamuna River Project

contributes to emission mitigation, carbon sequestration, and a proposal for how to leverage Delhi’s ecological systems to adapt to climate change.

Abeer Saha - History, PhD candidate

Environmental history of Delhi.

Continued Scholarship

John Echeverri-Gent - Politics

Study of the governance structure of the Yamuna River and floodplain. Seeking to expand research into the public-private partnerships governing sewage treatment plants in Delhi.

Dan Ehnbom - Art History

A study of the rich history of historical art centered on the cultural and religious significance of the Yamuna.

Projects in Exploratory Phase

Liz Rogawski - Public Health

Impact of sewage and pollution in public health.

Peter Debaere - Business Administration

Assessment of water pricing structures.

Other Research Subjects

Anthropology

Air Quality

Arts

Climate Change

Hydraulic Engineering

Public Health

Public Policy

Real Estate

Solid Waste

Urban Development

Water Economics

IMPACT AND RESEARCH GOALS

The project seeks to continue its collaboration with the Indian National and Delhi State Governments, Indian NGOs, academic institutions, and independent agencies to expand the project’s presence at UVA and advance interdisciplinary research.

Delhi’s Urban Expansion - Matt Reidenbach, Environmental Sciences

PROJECT COORDINATION

YRP has sought to engage the dilemma facing the Yamuna River with a multi-faceted approach. Applying broad based, intellectually diverse, research experience, YRP has forged a credible partnership with existing governance structures, and established a paradigm for influencing significant remediation policies. Developing a transparent, collaborative and open-source methodology, the project functions as a critical front for the confluence of academic leadership, with cultural, environmental, and political systems of governance.

ACCOMPLISHMENTS

- ▼ Engaged influential stakeholders in the India Government including the Lieutenant Governor of Delhi, the Indian Minister of Water Resources, and the Delhi Jal Board
- ▼ Analyzed the structure of Delhi's government and identified overlapping governance responsibilities of the Yamuna River
- ▼ Created The Yamuna River Project Council to provide guidance and facilitate new contacts across grounds
- ▼ Occupied New Research Lab Space in Hotel A at the University of Virginia
- ▼ Established a Post-Doc Fellowship Program

ENGAGING INDIAN STAKEHOLDERS

Delhi Government

The Delhi Jal Board (DJB), or Delhi Water Authority, is the largest water company in the world, supplying drinking water and sewage treatment to more than 20 million people. The Indian and Delhi governments agreed to sign an MOU with the University of Virginia with the DJB as the primary point of contact. The DJB CEO, Mr. Keshav Chandra, has created a new planning department at the DJB, led by Mriganka Saxena, with the purpose of holistically approaching their infrastructural projects while incorporating the advice of the Yamuna River Project. The Delhi Government, took note of the governance problems facing of water and environment in Delhi, demonstrated by the YRP research in water governance. This resulted in the appointment of Mr. Chandra to the position of Secretary/CEO of the departments of Irrigation and Flood Control (channels/drain) and Environment and Forests. In December 2017, Mr. Chandra was appointed as Joint Secretary of the Minister of Commerce of the Indian Government. A new CEO shall be appointed to lead the DJB.

Lieutenant Governor of Delhi

Mr. Anil Baijal oversees the elected government of the National Capital Territory and leads the Delhi Development Authority. Mr. Baijal inaugurated the India Habitat Center YRP exhibition, publicly committing support to the project.

Indian Minister of Water Resources

The former Cabinet Minister, Uma Bharti, met twice with the directors of YRP after the signature of the MOU. Her recent replacement, Mr. Nitin Jairam Gadkari met again with the directors in November 2017 in order to explore the engagement of UVA with the Yamuna Development Authority.

Dr. Amarjit Singh, a strong supporter of the project, has been the Secretary of the Ministry of Water Resources. Dr. Singh inaugurate the YRP exhibition and publicly committed his support for the project. He retired as Secretary in November 2017.

Winston Lung has collaborated closely with Mr. R. M. Bhardwaj, Scientist 'E' (director), Central Pollution Control Board, Ministry of Environment Forests & Climate Change, Government of India.

Indian Academic Institutions

A series of contacts have been made by UVA with several academic institutions in India. Among them, Teri, IIT, Delhi University, BITS Pilani, Ashoka University, and Jamia University. Future relationships will seek to support individual or common research interests between YRP and these Indian Universities.

NEW OPPORTUNITIES

Ashoka University

Mr. Pratap Bhanu Mehta has been appointed as new Vice-Chancellor of India’s most prestigious liberal arts university after his previous role as director of the Center for Policy Research, a political think tank in India. Mr. Mehta has been in dialogue with the YRP directors and participated in the UVA symposium held in India at the Embassy of Spain, “Dialogue of Values: Citizenship and Public Space”.

Vidhi Centre for Legal Policy

A legal think tank in Delhi focused on public policy and legal matters pertaining to the environment.

Birla Institute of Technology & Science (BITS), Pilani

Holds expertise in water engineering and water harvesting. Rajiv Gupta, Ph.D., M.ASCE, Senior Professor, Department of Civil Engineering, already collaborates with Sheetal Sekri of UVA Department of Environmental Economics.

POST-DOC PROGRAM

2017 marked the first year of YRP’s Post-Doc program which awards fellowships to graduates who wish to continue their scholarship with the University of Virginia and contribute to YRP’s research. YRP will continue to support this program and is seeking to expand funding for research fellowships in order to engage graduates from multiple disciplines.

Joe Brookover, US, Architecture and Urban Design

MArch 2017, UVA

Based in the US and Delhi

Mahesh Patel, India, Env. Sciences, Hydrology

PhD 2017, Indian Institute of Technology, Guwahati

Based in Delhi

Open position, India, Public Health

Based in Delhi

PROJECT COORDINATION GOALS

An important task for the near future will be to continue nurturing productive relations in India at different government and academic levels.

▾ **Government and MOU partners**

▾ **Academic and research contacts**

6

YRP Symposiums
and Exhibits

1ST PLACE

9th International
Landscape Biennial

25

Media outlets
covered YRP



Delhi's Drains - Randhir Singh

OUTREACH AND COMMUNICATION

Acting in the spirit of the University of Virginia, a public university, YRP has been committed to communicating our research and engaging the public realm in a transparent manner. In 2017, this effort resulted in several major symposiums and exhibits in India and the US.

The research has received substantial media coverage, a new website has been launched, and the Yamuna River Project book will be published in 2018. We are engaging in a public relations campaign in New Delhi focused on issues of development and water and additional exhibits and symposiums are planned.

ACCOMPLISHMENTS

- Facilitated the first visit to India of an UVA President during the YRP Exhibition in New Delhi on March 30, 2017
- Organized four symposiums and two exhibitions in the US and New Delhi to present and discuss YRP research
- Launched a new website - www.yamunariverproject.org - placing the project research in the public domain
- Publishing the Yamuna River Project book in April 2018, a 370 page anthology covering five years of research
- Received substantial media coverage in New Delhi and the US
- Project placed first in the 9th International Landscape Architecture Biennial and continues to receive recognition at the international level

SYMPOSIUMS AND EXHIBITS

Najafgarh Drain, Research Presentation, UVA

Public Discussion: December 12, 2016

Invited Critics: Lluís Alexandre Casanovas (Architectural Theorist, Princeton PhD candidate), Felipe Correa (Urbanist, Harvard GSD), Russel Katz (Architect, Washington D.C.)

UVA Critics: Ila Berman (Dean, School of Architecture), Robin Dripps (Architecture), John Echeverri-Gent (Politics), Dan Ehnbohm (Art History), Guoping Huang (Planning), Margarita Jover (Architecture), Jeff Legro (Politics and VPGA), Winston Lung (Engineering), Christian McMillen (History), Bala Mulloth (Batten-Social Entrepreneurship), Brian Owensby (History), Luis Pancorbo (Architecture), Matt Reidenbach (Environmental Sciences), Jeana Ripple (Architecture), Alex Wall (Landscape Architecture)

Yamuna River Project, India Habitat Center, New Delhi

Public Exhibit: March 29 - April 11, 2017

Symposium: March 29, 2017

About 150 members of governmental agencies, academics, and other professionals attended the symposium.

Indian Speakers: Mr. Keshav Chandra (CEO Delhi Jal Board), Mr. Tyagi (Board Member), Mrs. Mriganka Saxena (DJB Planner)

UVA Speakers: Iñaki Alday (Director YRP), John Echeverri-Gent (Politics), Pankaj Vir Gupta (Co-Director YRP), Winston Lung (Engineering), Matt Reidenbach (Environmental Sciences), Vivian Thomson (Env. Sci and Politics)

House of World Culture, Berlin, Germany

Public Lecture: September, 2017

YRP presentation by Pankaj Vir Gupta.

Challenges in Equitable Development, UVA

Public Exhibit: March 16 - April 14, 2017

Symposium: March 16 and April 14, 2017

UVA Speakers: Michael Allen (Religious Studies), Peter Debaere (Business), Dan Ehnbohm (Art History), John Echeverri-Gent (Politics), Winston Lung (Engineering), Shankar Nair (Religious Studies), Brian Owensby (History), Matt Reidenbach (Environmental Sciences) Liz Rogawski (Public Health), Sree Sathiamma (Global Studies), Vivian Thomson (Env. Sci and Politics)

Citizenship and Public Space, Embassy of Spain in India

Symposium: March 30, 2017

Moderator: Bilal Qureshi (Editor and Producer, NPR)

Speakers: Teresa Sullivan (President, University of Virginia), Iñaki Alday (Director YRP), Ian Baucom (Former Dean of the College and Graduate School of Arts and Sciences, University of Virginia), Pratap Bhanu Mehta (President and Chief Executive, Center for Policy Research, India)

World Frontiers Forum, Cambridge, US

Conference: October 1 - 3, 2017

Organized by MIT and Harvard University, guests were a selection of intellectual and entrepreneurship world leaders who discussed the challenges of the future from an interdisciplinary perspective on creativity and the connection between science and the humanities.

Smithsonian Innovation Festival, Washington D.C.

Exhibition: October 13 - 15, 2017

A multi-university exhibit of creative exploration and research happening at the intersection of science, engineering, arts, and design.

2017 Public Exhibition and the India Habitat Center - New Delhi, India

MEDIA AND PUBLIC IMPACT

YRP has received substantial coverage in Delhi and media outlets in the US as a result of YRP engagement in symposiums and exhibits.

Media Coverage from:

NPR	Business India
The Wall Street Journal	The Times of India
Exposure in India	The Indian Express
Press Trust of India	Business Standard
India Today Education	The Pioneer
Hindustan Times	Millennium Post
Hindustan Times Online	Governance Now
The Hindu Business Line	UVA Today

OTHER PRESENTATIONS

International Symposium Ruhr Universities Consortium
February 17, 2017

ETS Architecture - Barcelona, Spain
March 3, 2017

World Bank - Washington D.C.
May 18, 2017

UVA School of Architecture Foundation Board
September 23, 2016

UVA College of Arts and Sciences
February 28, 2017

UVA Department of Urban and Environmental Planning
October 14, 2016

YRP Advisory Board
March 6, 2017

RESEARCH BOOKS

The Najafgarh Drain

March 29, 2017

This book is a catalogue for the India Habitat Center Exhibition, The Yamuna River Project: The Najafgarh Drain, by I. Alday, P. Vir Gupta.

Yamuna River Project

Expected Release Date: April 2018

This 350 page book to be published by ACTAR Publishers NY, will communicate five years of UVA research on the Yamuna River and New Delhi. The book includes student research and contributions from several UVA faculty and Indian scholars.

DIGITAL PLATFORMS

New Website

www.yamunariverproject.org

Project Presentation

<https://youtu.be/DEerBB9dyQ8>

YRP Video Interviews

Iñaki Alday: <https://youtu.be/wz-Wn2oJKPM>

Pankaj Vir Gupta: <https://youtu.be/t6zpWDbqZ2c>

Daniel Ehnbohm: <https://youtu.be/Swiw-xlB8nw>

Jeffrey Legro: <https://youtu.be/Rr6L0TGKjWc>

John Echeverri-Gent: <https://youtu.be/oHJvxjAESvg>

Vivian Thomson: <https://youtu.be/s-nw81tpjPM>

PLANNED SYMPOSIUMS

Two international symposiums are planned for 2018, one at the University of Virginia and one in New Delhi, India.

The project is utilizing YRP research to engage in a public awareness campaign in New Delhi focused on issues of development and water.

OUTREACH AND COMMUNICATION GOALS

Efforts are underway to place the project’s research fully in the public domain and affirm UVA’s position as a global thought leader towards problems facing river cities.

- ▾ **YRP Book Launch - April 2018**
- ▾ **International Yamuna River Project symposiums**
- ▾ **International conference on river cities**
- ▾ **Sustained communication strategy in India**
- ▾ **New video content to disseminate research in the public domain**

FACULTY AND STUDENTS

The Yamuna River Project depends on the continued research of faculty members and students at the University of Virginia and elsewhere. Professors, students, and directors from Architecture, Art History, Leadership, Business, Engineering, Science, Politics, and Health lead to comprehensive and coordinated research efforts regarding the Yamuna and the city of Delhi. YRP’s conversation is a global one, not an isolated one, and significant research occurs at many levels not directly associated with the Project.

ACCOMPLISHMENTS

- ▼ 18 faculty members, 7 UVA departments, and 112 students have participated in the research project
- ▼ YRP is directly associated with 12 faculty research projects across UVA
- ▼ Over 70 students have traveled to India since the project’s inception as “Re-Centering Delhi” in 2014
- ▼ YRP Research has resulted in over 60 project proposals and a strategic plan for the re-development and recovery of Delhi’s waterways, including the Yamuna River

STUDENT INVOLVEMENT

The project has expanded the number of students and courses, from the original architecture studio to several courses at the School of Architecture, while expanding students research to Engineering, Environmental Sciences, Economics and Social Entrepreneurship.

The Yamuna River Project has been part of the discussions in other courses at the College of Arts and Sciences, Batten School of Leadership and Public Policy, Public Health, and Global Studies.

4 week research trip to India

Every year, YRP organizes a summer research trip to India that engages students from multiple disciplines.

10 day research trip to India

Associated with the fall semester research studio at the School of Architecture.

Research Assistants

YRP supports UVA research assistants from several departments throughout the year.



2017 YRP Research Team visits the Yamuna River Floodplain - New Delhi, India

TEACHING AND FACULTY INVOLVEMENT

UVA Courses 2016-2017

School of Architecture
Professors Iñaki Alday and Pankaj Vir Gupta
Design Research Studio for architecture and landscape architecture students to investigate and research the urban and ecological issues facing the Najafgarh Drain.

Assistant Professor Luis Pancorbo
Advised an architectural research project related to flooding and temporary housing.

Professor Guoping Huang
GIS course for urban and environmental planning students using Delhi as a case study.

College of Arts and Sciences, Environmental Sciences
Associate Professor Matthew Reidenbach
Undergraduate Capstone Project.

School of Engineering and Applied Sciences
Professor Winston Lung
Independent Study students.

UVA Courses fall 2017

School of Architecture
Professors Iñaki Alday and Pankaj Vir Gupta
Design Research Studio for architecture and landscape architecture students to investigate and research the urban and ecological issues facing the Supplementary Drain.

Guoping Huang - Urban and Environmental Planning
GIS course for urban and environmental planning students using Delhi as a case study. Independent Study students, collaborating with the Architecture Studio.

College of Arts and Sciences, Environmental Sciences
Associate Professor Matthew Reidenbach
Independent Study students, collaborating with the Architecture Studio.

FACULTY AND STUDENT INVOLVEMENT GOALS

- The project is continuing to grow the number of students and faculty involved through UVA courses, fellowships, and research trips to India.
- Continue to expand into courses outside the School of Architecture
 - Undergraduate course on River Cities
 - Continue creating opportunities for faculty research and engagement

STUDENT AND FACULTY INVOLVEMENT

18

Faculty Members

7

Research Trips to India

112

Students



Iñaki Alday leads the 2015 YRP team on a research trip - New Delhi, India

FUNDRAISING AND BUDGET

In 2017 YRP secured operating funds from the University of Virginia and received support from the Delhi Jal Board and private donations. We are seeking to increase our funding in order to substantial scale up our operations and fully engage the public momentum behind YRP's research.

ACCOMPLISHMENTS

- ▼ \$825,000 in current funding from UVA Provost Office and university departments
- ▼ \$95,000 investment from Delhi Jal Board for the YRP research book and Delhi exhibition and symposium
- ▼ \$30,000 in donations and grants
- ▼ Actively pursuing grant funding from major foundations and governmental agencies and continuing efforts to engage the Indian-American UVA alumni group

PROJECT FUNDING

Current Funding 2017-18

YRP is operating with \$825,000 in funding from the Vice Provost for Global Affairs, the College of Arts and Sciences, the School of Architecture, the President's Office, and The Institute of the Humanities and Global Cultures.

Donations

The project has received private donations and in kind support by the Delhi Jal Board (exhibition, symposium and event) and the Embassy of Spain in Delhi (the event of the Dialogue of Values: Citizenship and Public Space), based in their long standing diplomatic support for the project.

The Katz Family Foundation continues an increasing annual funding support to the architecture research studio for research travel and related expenses.

UVA Alumni Funding Opportunities

On December 12, an event was held in DC with the support of Reggie Aggarwal, UVA alum and owner of Cvent, raising significant interest among the Indian-American alumni and business groups in the DC area.

Creation of a non-profit entity in India

The process has been started to establish a non-profit entity in India that will manage YRP grants, donations and expenses in the country. This non-profit will allow YRP to scale up operations, research, and public engagement in India, a critical next step for the project.

Grants

The YRP is starting to explore external grant opportunities nationally and internationally.

OUR SUPPORTERS

Foundations

Aga Khan Trust for Culture
Katz Family Foundation
YES Institute, India

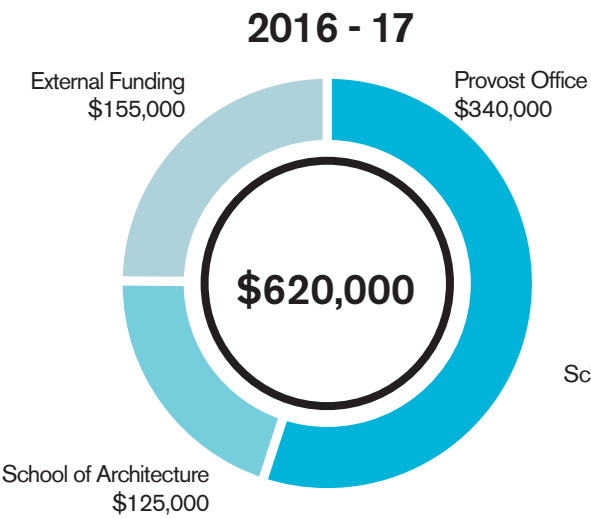
Individuals

R.M. Bhardwaj
Bimal Patel
Mohammad Shaheer
Mr. and Mrs. Navjeet Sobti

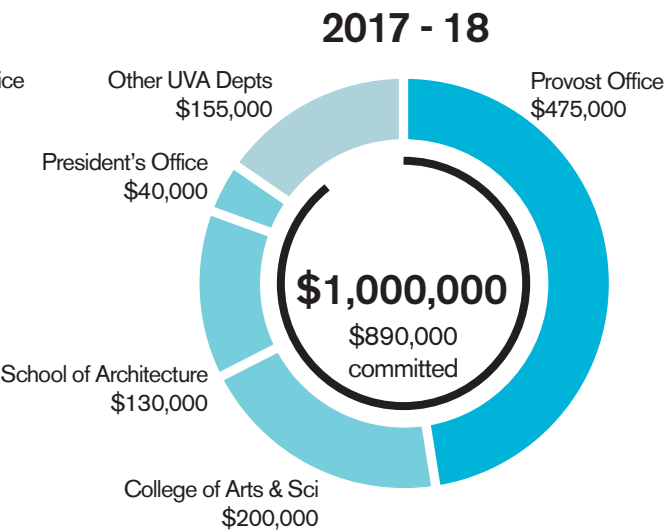
Public Entities

Delhi Jal Board
Embassy of Spain in India
Embassy of Switzerland in India

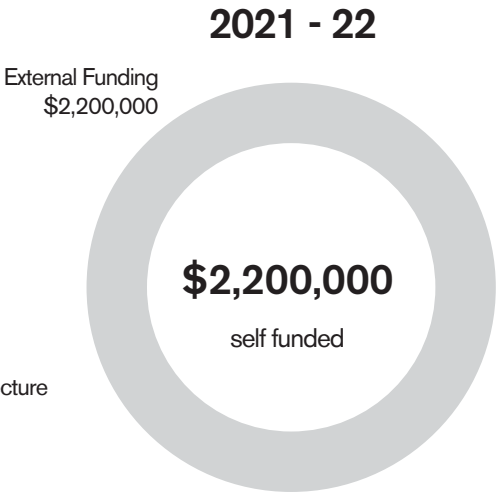
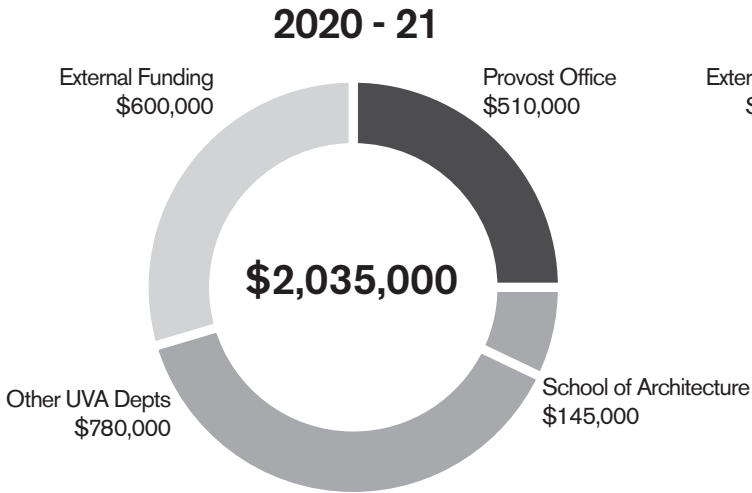
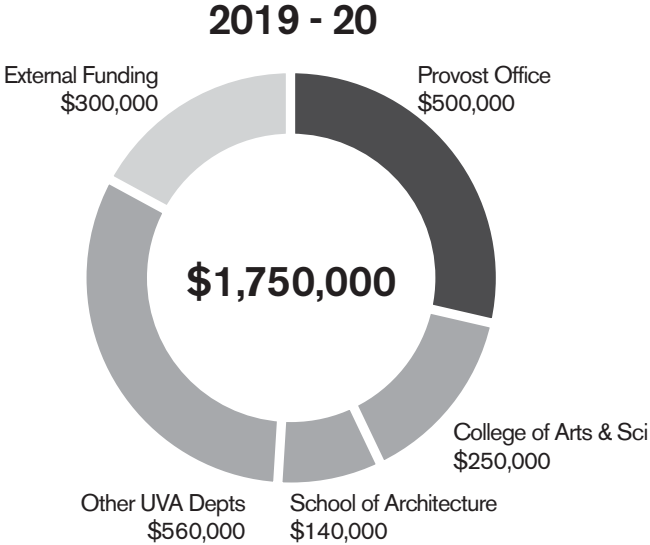
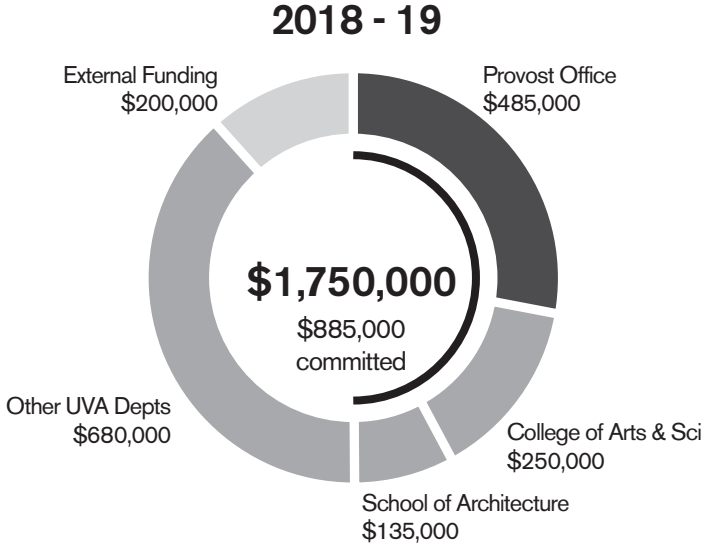
Past Year Budget



Current Year Objective



Future Years Plan



FUNDRAISING & BUDGET GOALS

The project will continue to build funding relationships with departments throughout the university, pursue available strategic investment and research funds at UVA, and secure external grants and donations.

- ▾ Establish a non-profit entity in India
- ▾ Substantially increase project funding
- ▾ Establish project support team in India
- ▾ Become self-funded by 2021

YRP TEAM

DIRECTORS



Iñaki Alday
Director, Yamuna River Project
Quesada Professor of Architecture

Iñaki Alday joined the University of Virginia as Chair of the Department of Architecture in 2011. Since 2016, he has been the Director of the Yamuna River Project, the first pan-university grand challenge project at the University of Virginia. Both in the academic appointment and in the design practice of aldayjover architecture and landscape, Iñaki Alday promotes a new attitude in front of the professional and academic challenges on the transformation of our environment. He believes that the role of Architecture and Architects, the interdisciplinary work and integration of scales, the new nontraditional programs as hybrid infrastructures, and the necessity of establishing new social and environmental ethics are some of today's challenges that need met with a global vision.

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Pankaj Vir Gupta
Co-Director, Yamuna River Project
Professor of Architecture

Pankaj Vir Gupta is Professor of Architecture at the University of Virginia and Co-Director of the Yamuna River Project. With a Bachelor of Science in Architecture from the University of Virginia (1993), and a Master of Architecture from the Graduate School of Architecture at Yale University (1997), Gupta practices as founder principal vir.mueller Architects in New Delhi since 2003. Gupta is a Registered Architect, licensed to practice in the U.S.A., and a member of the Council of Architecture in India. He has received awards from the American Institute of Architects, the Foundation for World Education, the George Nakashima Foundation for Peace, the Graham Foundation for Advanced Studies in the Fine Arts and the Fritz-Höger Award for Excellence in Brick Architecture.

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Tyler Mauri
M.Arch 2018

Monisha Nasa
M.Arch 2019

Siddarth Velamakani
M.Arch 2018