THE U.S.-INDIA PARTNERSHIP

AMBITION AND ACHIEVEMENT

THE U.S.-INDIA PARTNERSHIP

AMBITION AND ACHIEVEMENT

December 2020

Printed and published by the
Public Affairs Section of the
Embassy of the United States of America,
New Delhi, India.

Printed at Thomson Press (India) Ltd.,
Faridabad, Haryana, India.

THE U.S.-INDIA PARTNERSHIP

AMBITION AND ACHIEVEMENT

The United States and India are bound together by strong personal connections and mutual affinities.

Channi Anand © AP Images

CONTENTS

Preface
6

Introduction
8

U.S.-India Relations and the Indo-Pacific
22

Defense, Counterterrorism, and Law Enforcement
36

Trade, Investment, and Economic Growth
50

Energy
66

Health and Biomedical Innovation
76

Science, Technology, Environment, and Space
92

People-to-People Ties
106

PREFACE

Hello Friends!

As the U.S. Ambassador to India, it gives me great pleasure to introduce this booklet on the partnership between the United States and India. We want to share with you the many contributions to the continued progress in bilateral ties from so many people on both sides of the relationship.

It has been a great honor to lead the dedicated men and women of the U.S. Mission to India, both American and Indian, to support this progress. Reflecting the incredibly wide-ranging U.S.-India relationship, our team includes dozens of U.S. agencies at the Embassy in New Delhi; Consulates General in Chennai, Hyderabad, Kolkata, and Mumbai; the North India Office; and the U.S. Commercial Service offices in Ahmedabad and Bengaluru. Together, we have the privilege of representing the many friends and partners of India in the U.S. federal, state, and local governments, and among the American people.

When Swami Vivekananda arrived at the World's Parliament of Religions at the 1893 World's Fair in Chicago, along with a delegation from India, he exclaimed:

"Sisters and Brothers of America – It fills my heart with joy unspeakable to rise in response to the warm and cordial welcome which you have given us."

My team and I have felt the same way over the last three years, living and working in India. The U.S.-India relationship has grown exponentially in the 127 years since Vivekananda spoke those words, becoming a Comprehensive Global Strategic Partnership, while the same warm ties remain between our people.

Today, the U.S. relationship with India is unlike any other we have in the world, and I believe the same is true for India. Our joint activities, which bring benefits to our people and to the world, range from trade to defense to energy to health to education to space to so much more. In fact, it is often said that our cooperation spans the full scope of human endeavor, and I have experienced this first-hand in my travels across every state in India.

Observing the U.S.-India partnership in action across this great country, I have truly felt the words of the National Song, *Vande Mataram*, about India's "lands clothed beautifully with her trees in flowering bloom, sweet of laughter, sweet of speech."

As you will see in the pages of this booklet, ties between the United States and India are just as old as they are wide – dating back to the early years of our republic, in the 1780s, when the first U.S. trading ships visited India. The relationship has slowly deepened

and broadened over time, particularly after Indian independence in 1947, in what might be called an evolution. I believe that there have been a number of drivers of this growth, including the entrepreneurial spirit of our people, the democratic nature of our systems, structural changes in the world, the decisions of our leaders, and the common responsibility we both feel as large powers to exert leadership on the world stage. Yet even as trade and people-to-people ties grew during the Cold War, our two governments were unable to develop strategic trust or deep partnership.

It took a true transformation of bilateral ties at the turn of the 21st century to help overcome what Prime Minister Narendra Modi has called the "hesitations of history." From the Next Steps in Strategic Partnership to the Civil Nuclear Agreement to U.S. support for a permanent Indian seat on the United Nations Security Council, we built genuine trust between our countries and became strategic partners in upholding the rules-based international order. Those transformative steps laid the foundation for the continued progress that we have made in recent years and, indeed, for the confidence of our leaders to declare that the U.S.-India relationship will be a defining partnership of the 21st century.

In the past few years, the U.S.-India partnership has expanded in nearly every field of cooperation. We have been guided by the vision and ambitions of our leaders. Their regular visits and meetings, supported by a wide range of ministerials and policy dialogues, have given both prominence and energy to the relationship. As this booklet details, we have made progress in Indo-Pacific cooperation; in defense and security ties; in trade and investment; in energy; in health and biomedical innovation; in science, technology, environment, and space cooperation; and in people-to-people ties.

It is worth noting that each U.S. administration has successfully built upon the accomplishments of its predecessor in improving ties with India. I believe that we have done just that in the last few years, together with equally committed partners in the Indian government and among the Indian people. And I am confident that the next U.S. administration will continue this work by strengthening the bilateral relationship further in the years to come. In two great democracies such as ours, it is natural for governments to listen to public sentiment, and it is clear that a strong relationship is what both the American and Indian people want.

This is a partnership and, indeed, a friendship that matters to the world. And it is one that cannot be broken. In the words of the classic film *Sholay*: "*Yeh dosti hum nahin todhenge* – We will never break this friendship."

Before I close, I would like to thank my entire team at U.S. Mission India for their hard work to support this recent progress in U.S.-India ties and for their outstanding efforts on this booklet. I hope you will be just as inspired to read this story of U.S.-India partnership as we have been to tell it.

Warm regards,

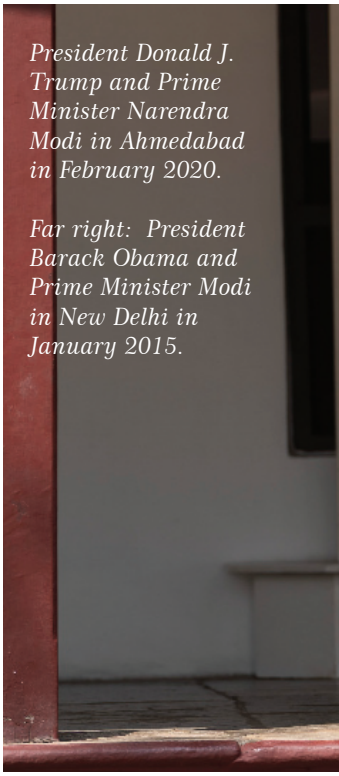
Ken Juster

Kenneth I. Juster

INTRODUCTION

Greetings and Namaskar! This is the story of the U.S.-India relationship, one of the world's most consequential partnerships in the 21st century. It is a story of increasing convergence between natural partners, featuring dynamic individuals and great institutions. It is a story of geopolitics and trade, new ideas and scientific breakthroughs, ambition, vision, and achievement. Already, U.S.-India cooperation has improved the lives of millions. Today, it offers an even greater potential to increase peace and prosperity around the world.

When U.S. President Donald J. Trump met with Indian Prime Minister Narendra Modi in February 2020, they highlighted the impact of our shared progress on the world, declaring our relationship a Comprehensive Global Strategic Partnership. In doing so, they recognized that the United States and India work together across the full range of human endeavor, driven by expansive people-to-people ties, common interests, the promise of innovation and growth, similarities as diverse democracies, and the responsibility of global leadership. Today, the United States and India are cooperating to tackle challenges around the world, to improve the lives of billions of



President Donald J. Trump and Prime Minister Narendra Modi in Ahmedabad in February 2020.

Far right: President Barack Obama and Prime Minister Modi in New Delhi in January 2015.

people, to set a standard for other countries to follow, and to join with like-minded countries to sustain the rules-based international order.

Despite this progress, there is much work to do. We are in a new age of ambition to realize the full potential of our relationship and help define the 21st century by drawing upon our shared interests and strengths. This potential for global leadership is based on our vibrant economies, rich cultures, active civil societies, diplomatic influence, and military power. The U.S.-India partnership seeks to harness the full scope of our advanced scientific and technical capabilities and the talents of our people to further global development and prosperity. Our mutual ambition flows from our shared identities as Indo-Pacific nations, a region which promises to be the center of power and economic growth in the 21st century. Importantly, our ambition rests on the strong support of our citizens and all the major political parties in our respective countries.

A Long History of Ever-Expanding U.S.-India Relations

The story of the U.S.-India relationship dates back hundreds of years. In 1792, not long after the United States declared its independence, President George Washington appointed Benjamin Joy, a businessman from Massachusetts, to be the first U.S. official posted to India. Joy arrived as Consul in Kolkata in 1794, and later that year appointed American merchant William Abbott as the first U.S.

Official White House Photo by Shealah Craighead

© AP Images

American ships began trade with India in the late 1700s.

Photographs courtesy Library of Congress

Ambassador William Phillips, sent to New Delhi by President Franklin D. Roosevelt in 1942.

Consular Agent for the Madras Presidency in southern India.

These diplomatic postings followed our first trading interactions, which had started with the arrival of a U.S. ship in India in 1784. Throughout the 1800s, our peoples continued to conduct trade by sea. Americans bought textiles, tea, sugar, and ginger from India, and sold iron as well as blocks of ice. Indeed, an icehouse to store such cargo still stands today in Chennai's Marina Beach as witness to those early connections.

By the end of the 19th century, the first wave of Indian immigrants to the United States, mostly from Punjab, settled along the West Coast, weaving Indian heritage into America's rich multicultural tapestry. President Franklin Roosevelt appointed an envoy, Ambassador William Phillips, to be stationed in New Delhi in 1942 and to work with India's emerging leaders on the national aspiration for independence. The United States established formal diplomatic relations with the interim Indian government on November 1, 1946, well before India's formal independence.

In the decades since India's independence, the achievements of our partnership have benefited not only the peoples of our countries, but also the world. These achievements include the Green Revolution, which helped India double its wheat production in a few years, and was made possible by new seeds provided by U.S. agronomist Norman Borlaug, who visited India in 1963 with the support of the Rockefeller Foundation and the U.S. Agency for International Development (USAID). His visit, along with the eight agricultural universities that USAID helped establish in India, spread knowledge of advanced farming techniques around the country. Through USAID, the United States supported other partnerships as well with U.S. universities that helped advance higher education in India, including the renowned Indian Institute of Technology, Kanpur. In addition, scientists and physicians from the United States and India have worked together to eliminate preventable diseases in India, such as smallpox and polio. They have done so through the efforts of government agencies such as USAID and the Centers for Disease Control and Prevention (CDC), as well as private groups such as Rotary International.

Despite these areas of progress, in many ways the U.S.-India relationship underperformed its potential for much of the Cold

War period. Friction over foreign policy issues created suspicion within each country, while India's closed and statist economy, including its mantra of import substitution, limited the opportunities for foreign trade and business ties. It took the end of the Cold War and the strategic realignment that followed the collapse of the Soviet Union, combined with India's economic reforms, to encourage both countries to move beyond these hesitations of history. Growing people-to-people ties have also supported improved relations between the governments in Washington, D.C. and New Delhi.

2000-2015: The Transformation of the U.S.-India Relationship

While India's 1998 nuclear tests had led to the imposition of economic sanctions by the United States, the subsequent engagement by U.S. Deputy Secretary of State Strobe Talbott and Indian Minister of External Affairs Jaswant Singh helped build new trust between the two countries. In 14 rounds of dialogue, starting in 1998 and continuing to 2000, the two diplomats enhanced mutual understanding of non-proliferation issues and the economic and strategic potential of the bilateral relationship. This set the stage for the historic visit to India in March 2000 by President Bill Clinton – the first visit to India by a U.S. President in over 20 years. President Clinton spent five days visiting five cities, addressed the Indian Parliament, and generated significant goodwill.

These events laid the groundwork for a true transformation in the relationship under the Administration of President George W. Bush. The Bush Administration began the process of lifting U.S. sanctions in 2001. The two countries formed the

J. Scott Applewhite © AP Images

President Bill Clinton during a visit to India in March 2000.

White House photo by Paul Morse

President George W. Bush and Prime Minister Manmohan Singh announced a framework for civil nuclear cooperation in July 2005.

> It is my firm belief that the relationship between the United States and India — bound by our shared interests and our shared values — will be one of the defining partnerships of the 21st century.
>
> *—President Barack Obama, 2010*

U.S.-India High Technology Cooperation Group in 2002 to promote and facilitate trade in advanced technologies, while ensuring the security of technology transfers. In 2004, the United States and India agreed on the Next Steps in Strategic Partnership (NSSP), expanding cooperation in civilian nuclear activities, civilian space programs, high-technology trade, and missile defense. They then signed a New Framework for the U.S.-India Defense Relationship in June 2005, enabling new military exercises and defense industrial cooperation. And in July 2005, President Bush and Prime Minister Manmohan Singh announced an historic framework for civil nuclear cooperation, followed by the conclusion of a Civil Nuclear Cooperation Agreement in March 2006. The U.S. Congress passed the U.S.-India Agreement for Cooperation Concerning Peaceful Uses of Nuclear Energy Act with bipartisan support in October 2008. In the eyes of many observers, this was a watershed moment that showed the power and the potential of the U.S.-India relationship.

Meanwhile, bilateral trade and investment continued to grow. So did people-to-people ties, particularly as increasing numbers of Indians came to the United States for work and study. We also saw significant achievements in science and health. U.S. government medical officers contributed to India's successful National Polio Surveillance Project from 1997 to 2014. Joint collaboration among the U.S. National Institutes of Health, the

CDC, the Indian Department of Biotechnology, the Indian Council of Medical Research, and other public and private partners led to the 2015 launch of India's first indigenously-developed vaccine – ROTAVAC – which is expected to prevent millions of rotavirus-related infant deaths worldwide.

Scaling New Heights to Reach a Comprehensive Global Strategic Partnership

Since 2015, the partnership between the United States and India has seen sustained growth in all areas of cooperation. This has enhanced the prosperity of our respective citizens through growth in trade and investment, improved lives through cooperation in public health and education, provided more security for our nations through cooperation in defense and counterterrorism, and much more. At the same time, the partnership has expanded beyond our respective borders to encompass space, cyberspace, and the high seas.

The importance that the United States and India now attach to the bilateral relationship is reflected in the strategic documents of our countries and the statements of our leaders. President Barack Obama and Prime Minister Modi issued the landmark U.S.-India Joint Strategic Vision for the Asia-Pacific and Indian Ocean Region in January 2015. In June 2016, Prime Minister Modi told a Joint Session of the U.S. Congress that "our relationship has overcome the hesitations of history." The December 2017 U.S. National Security Strategy

Prime Minister Narendra Modi at a Joint Session of the U.S. Congress in June 2016.

Evan Vucci © AP Images

welcomed "India's emergence as a leading global power and stronger strategic and defense partner." The Trump Administration released strategies on the Indo-Pacific and South Asia that both emphasized U.S. support for India as a key element in the broader engagement with the region. Later, before an audience of over 50,000 people at NRG Stadium in Houston in September 2019, Prime Minister Modi declared that "our two nations have taken the relationship to new heights." He continued, with President Trump at his side, to praise the "strength and depth of human bonds between our two great nations." And in February 2020, before an audience of over 100,000 people at Motera Stadium in Ahmedabad, President Trump declared that "our nations have become thriving centers of culture and commerce and civilization, giving light and vitality to all of the world."

The frequency of official visits by U.S. and Indian leaders is another indicator of the priority placed by both countries on the bilateral relationship. During his second visit to India in January 2015, President Obama was the Chief Guest at the Republic Day parade, the first time a U.S. President received this honor. During his visit to India in February 2020, President Trump traveled to Ahmedabad, Agra, and New Delhi. He paid tribute to Mahatma Gandhi at the Sabarmati Ashram, and toured the Taj Mahal in Agra.

Prime Minister Modi has made six trips to the United States since taking office

U.S. Defense Secretary James N. Mattis (from left), U.S. Secretary of State Michael R. Pompeo, Indian External Affairs Minister Sushma Swaraj, and Indian Defense Minister Nirmala Sitharaman at the first U.S.-India 2+2 Ministerial Dialogue in September 2018.

Manish Swarup © AP Images

in 2014. He has engaged countless Americans in New York, Washington, D.C., Houston, and Silicon Valley. In 2016, Prime Minister Modi participated in the Nuclear Security Summit and became the fifth Indian Prime Minister to address a Joint Session of Congress.

Progress in Wide-Ranging Cabinet- and Minister-Level Engagements

Once rare and noteworthy, cabinet-level engagements have become increasingly common as the relationship has broadened and deepened. Such meetings in a variety of formats have grown, and ensured whole-of-government engagement between the United States and India. A Strategic and Commercial Dialogue was held in Washington, D.C. in September 2015, led by the U.S. Secretary of State and the Secretary of Commerce with their Indian counterparts, and a second round took place in August 2016. This format evolved into the U.S.-India 2+2 Ministerial Dialogue, led by the U.S. Secretary of State and the Secretary of Defense and their Indian counterparts. The first 2+2 Ministerial was held in New Delhi in September 2018, the second in Washington, D.C. in December 2019, and the third back in New Delhi in October 2020. The U.S.-India Commercial Dialogue, led by the U.S. Secretary of Commerce and the Indian Minister of Commerce and Industry, was held in October 2017 and February 2019. The U.S.-India Economic and Financial Partnership, led by the U.S. Secretary of the Treasury and the Indian Minister of Finance, was held in February 2015, April 2016, and November 2019. A new U.S.-India Strategic Energy Partnership, led by the U.S. Secretary of Energy and the Indian Minister of Petroleum and Natural Gas, held its first meeting in April 2018 and a second round in July 2020. Finally, the U.S.-India Trade Policy Forum, led by the U.S. Trade Representative and the Indian Minister of Commerce and Industry, met in October 2015, October 2016, and October 2017.

Progress in the Indo-Pacific Region

In recent years, the United States and India have both embraced the view that a free and open Indo-Pacific – the dynamic region extending from the West Coast of the United States to the East Coast of Africa – is central to global peace and prosperity. The United States and India are increasingly promoting a shared vision for the Indo-Pacific, and providing leadership that ensures that the region remains free and open. We have done this through extensive consultations among countries in the region, members of private industry, and other stakeholders to build a consensus that sovereign nations will prosper through respect for freedom of commerce, a rules-based order, and the peaceful resolution of disputes, in accordance with international law. The United States and India have worked with Japan, Australia, and other like-minded countries to provide a positive vision, resources, and security for the region's development. This has involved building habits of cooperation between our governments, including at the highest levels,

2014

September 28: Prime Minister Narendra Modi connects with the American people at Madison Square Garden in New York, demonstrating the strength of people-to-people ties in the relationship, followed by successful public events in succeeding years in San Jose, California and Houston, Texas.

November 3: The U.S. Agency for International Development and the Indian Ministry of External Affairs sign a Statement of Guiding Principles on Triangular Cooperation for Global Development, transforming the development relationship and strengthening our cooperation in the world.

2015

January 26: President Barack Obama serves as Chief Guest at India's Republic Day parade, the first time a U.S. President has done so. He also becomes the first sitting U.S. President to visit India twice.

2016

June 7: Prime Minister Narendra Modi becomes the first Indian leader to visit Arlington National Cemetery and lay a wreath at the Tomb of the Unknown Soldier, paying his respects to U.S. sacrifices in conflict.

December 8: Secretary of Defense Ashton B. Carter and Minister of Defense Manohar Parrikar finalize India's designation as a Major Defense Partner of the United States, following the passage of this status into law by the U.S. Congress.

2017

June 26: President Donald J. Trump and Prime Minister Narendra Modi demonstrate new levels of bilateral cooperation as the United States offers India the sale of Sea Guardian Unmanned Aerial Systems and designates Hizbul Mujahideen leader Syed Salahuddin as a Specially Designated Global Terrorist. Both countries also call on Indo-Pacific nations to adhere to responsible use of debt financing.

and across our like-minded societies. The United States and India joined with Japan for the first Trilateral Ministerial meeting in September 2015. In November 2018, President Trump, Prime Minister Modi, and Prime Minister Shinzo Abe met for the first-ever Trilateral Summit, and met again in June 2019. And in September 2019, and again in October 2020, the three countries were joined by Australia for the Quadrilateral Ministerial.

Progress in Trade and Investment

In the last five years, the U.S.-India relationship has seen significant growth in bilateral trade and investment, creating jobs and economic benefits on both sides of the Indo-Pacific. Two-way trade in goods and services reached $146.1 billion in 2019. The United States became India's largest trading partner, and India the United States' twelfth-largest trading partner.

The United States is now the destination for approximately 16 percent of India's total exports, and Indian firms have invested billions of dollars in the United States, supporting over 67,000 jobs. U.S. firms have also invested billions of dollars in India, including in the e-commerce, aviation, railways, telecommunications, medical devices, and heavy equipment sectors. According to the American

2018

September 6: Secretary of State Michael R. Pompeo and Secretary of Defense James N. Mattis participate in the first U.S.-India 2+2 Ministerial Dialogue, with External Affairs Minister Sushma Swaraj and Minister of Defense Nirmala Sitharaman, demonstrating the progress in bilateral strategic cooperation.

November 30: President Donald J. Trump, Prime Minister Narendra Modi, and Prime Minister Shinzo Abe hold the first U.S.-India-Japan Trilateral Summit, sharing views on the Indo-Pacific.

2019

September 26: Secretary of State Michael R. Pompeo, External Affairs Minister S. Jaishankar, Foreign Minister Toshimitsu Motegi, and Foreign Minister Marise Payne hold the first U.S.-India-Japan-Australia (Quad) Ministerial to discuss cooperation in the Indo-Pacific.

2020

February 24: President Donald J. Trump connects with the Indian people at the "Namaste Trump" event in Ahmedabad, Gujarat, further reinforcing the strength of people-to-people ties on both sides of the Indo-Pacific.

Photographs © AP Images, courtesy USAID, the State Department and Wikimedia

Chamber of Commerce in India, U.S. firms have created more than five million jobs in India. Bilateral trade and investment are led not only by many large U.S. and Indian firms, but by thousands of small- and medium-sized enterprises. While the progress is impressive, trade and investment are still much less than they could be if both countries work to open markets and improve the ease of doing business.

Progress in Diplomatic and Defense Cooperation

The United States continues to support India's rise as a global power and to work with India around the world to sustain the rules-based order. We have advocated for a permanent seat for India on the United Nations Security Council, and assisted India in obtaining observer

Adnan Abidi © AP Images

U.S. Secretary of State Michael R. Pompeo met with Indian External Affairs Minister Subrahmanyam Jaishankar in New Delhi before the U.S.-India 2+2 Ministerial Dialogue in October 2020.

State Department photo

The Global Entrepreneurship Summit in Hyderabad in November 2017.

status in the Arctic Council. We supported India's entry into global non-proliferation bodies such as the Missile Technology Control Regime in June 2016, the Wassenaar Arrangement in December 2017, and the Australia Group in January 2018. In 2016, the United States recognized India as a Major Defense Partner, expanding our ability to provide India with sensitive dual-use and military technologies.

In 2018, the U.S. Department of Commerce moved India into Tier 1 of its Strategic Trade Authorization license exception, a status similar to that accorded to U.S. treaty allies. As a result, U.S. companies are able to export a wider range of products more efficiently to Indian high-technology and military customers. This has helped to further expand bilateral defense sales, thereby linking our defense industries, growing our economies, and building interoperability between our military forces.

In recent years, the United States and India have strengthened diplomatic coordination on issues around the world. We have held numerous bilateral dialogues on regional topics such as East Asia, Africa, and the Middle East; and on functional topics such as higher education, counterterrorism, and maritime security. We have worked together at the United Nations and on the ground in third countries. We have even held a diplomatic training exercise for new U.S. and Indian diplomats at India's Sushma Swaraj Institute of Foreign Service.

Our cooperation has focused on practical outcomes, including joint training of African peacekeepers, Passage to Prosperity trade shows to promote India-Afghanistan trade, and jointly-led workshops on maritime security for ASEAN Regional Forum partners. Our cooperation has extended to the private sector as well, including co-hosting the Global Entrepreneurship Summit with over 1,700 participants in Hyderabad in November 2017.

Progress in Development Assistance that Benefits the Indo-Pacific Region

The United States and India have transformed our relationship in development assistance to one of true partnership. USAID is working with a diverse set of

private and public Indian entities to overcome challenges in health, water and sanitation, education, forestry, biodiversity, the digital economy, and energy. USAID and the Indian government are also engaged in wide-ranging triangular cooperation that supports development in Africa and the Indo-Pacific region.

Our countries have together made important progress in health, which has helped improve the lives of our citizens and people around the world. The cooperation has resulted in the implementation of pioneering schemes, including the U.S. President's Emergency Plan for AIDS Relief (PEPFAR), the Global Health Security Agenda, tuberculosis control, and biomedical research and regulation. U.S.-India Health Dialogues, which were held in 2015, 2017, and 2019, have been an important platform for our collaboration. The meetings had high-level participation from the U.S. Department of Health and Human Services, USAID, the Indian Ministry of Health and Family Welfare, the Indian Council of Medical Research, and India's Department of Biotechnology.

Contributions by the U.S. Congress and the Indian Parliament

The bilateral relationship has been strengthened by significant contributions from the U.S. Congress and the Indian Parliament. The U.S. House of Representatives formed a Congressional Caucus on India and Indian Americans in 1993, and today it is one of the largest country-specific caucuses in the House. The U.S. Senate formed an India Caucus in 2004, the first country-specific caucus in that body. Members of both caucuses have been regular visitors to India as well as participants in India-related events in the United States. The 2016 invitation by the Speaker of the House of Representatives for Prime Minister Modi to address a Joint Session of Congress was the sixth such invitation for an Indian leader. Secretary of State Michael R. Pompeo and Secretary of Defense Mark T. Esper, along with their Indian counterparts, announced plans for a U.S.-India Parliamentary Exchange at the second 2+2 Ministerial in December 2019.

Contributions at the State and Local Levels

U.S.-India ties have grown at the state and local levels. Sharing a federal system that gives authority for many important issues to state and local government, Americans and Indians have a common understanding of the importance of engagement at these levels. In the recent past, a host of mayors and governors from the United States have visited India, while many Indian chief ministers and state officials have traveled to the United States. The U.S. Mission to India has supported the visits of multiple U.S. state-level delegations, including mayors from Anaheim, Houston, and Louisville, and governors from Colorado, Indiana, Kentucky, New Jersey, and Texas, seeking to expand trade, investment, cultural, political, and people-to-people ties with India. The United States, led by the U.S. Trade and Development Agency, has also supported India's Smart Cities Mission

since 2015, with participation by private sector and non-profit partners. The U.S.-India Commercial Dialogue has featured U.S. and Indian states through the ongoing "State Spotlight Series" to promote awareness of state-specific trade and investment opportunities.

Progress in People-to-People Ties

The U.S.-India relationship now stands on a solid foundation of common interests and growing partnership, reinforced by increasingly deep people-to-people ties. The four million-strong Indian-American community is among the most prominent and successful of any ethnic group in the United States. Their achievements in all walks of American life have contributed to the immense goodwill between the peoples of our countries, and led to a dynamic, two-way flow of ideas, talent, and resources. Indian students and scholars, including those on

Fulbright-Nehru Fellowship programs, contribute to American universities and society, while American travelers strengthen the economy of India.

People-to-people cooperation also extends to such diverse areas as the arts, academia, science, medicine, think tanks, civil society, business, and religion. In the past few decades, Indian culture has spread widely across the United States, with yoga, Bollywood films and actors, and Indian food becoming popular among Americans. The affinity has flowed in the other direction as well, with American culture becoming popular in India through music, films, streaming services such as Netflix and Disney+ Hotstar, chain restaurants, and shopping outlets. Online social media platforms such as Facebook, Twitter, YouTube, and WhatsApp are now deeply embedded in Indian society. American sports are also spreading, highlighted by the first-ever National Basketball Association games in India in October 2019. This was shortly after the Indian national cricket team had toured the United States.

Alex Brandon © AP Images

Looking to the Future: A Shared Vision for Future Bilateral Growth and Global Leadership

The subsequent chapters will further describe the key pillars of this important partnership. Although the relationship has deepened and broadened since 2015, today and in the years to come, we seek to draw on a shared ambition to help the relationship achieve its full potential. We know that the progress the United States and India have made will serve as the foundation to tackle tomorrow's challenges, whether they are local or global. The people of the United States and India, as well as the world, depend on the results of our cooperation. Both countries remain confident that mutual convergence will bring us closer together, with increasing benefits for all of us.

U.S. President Donald J. Trump, First Lady Melania Trump, and Indian Prime Minister Narendra Modi at the "Namaste Trump" event in Ahmedabad in February 2020.

"

Indians and Americans are always striving to be greater, our people are always seeking to be better, and so our nations have become thriving centers of culture and commerce and civilization, giving light and vitality to all of the world.

—President Donald J. Trump, 2020

U.S.-INDIA RELATIONS AND THE INDO-PACIFIC

The United States has always shared a common destiny with India and the Indo-Pacific region. From our first trading ships that departed for Guangzhou and Puducherry after the American Revolution, to our initial diplomatic presence in Kolkata in 1794, the United States has long been a part of what is now known as the Indo-Pacific.

Over time, we have become increasingly connected with the region that stretches from the West Coast of the United States to the East Coast of Africa, through trade, culture, immigration, religion, and geopolitics. Americans across the country have been engaged with the Indo-Pacific, from financial firms on the East Coast to farms in the Midwest. But among the strongest ties have been with West Coast states, stretching from California to Alaska, as well as Pacific states and territories such as Hawaii, Guam, and the Northern Mariana Islands. The people and identities of these areas are connected with the waters, cultures, and development of the Indo-Pacific.

Today, the Indo-Pacific is accepted as a clear geographical region. And it is indisputably at the center of the world's attention and economic growth. This is the result of the Indo-

Japanese Prime Minister Shinzo Abe (from left), U.S. President Donald J. Trump, and Indian Prime Minister Narendra Modi at the first U.S.-India-Japan Trilateral Summit in November 2018.

Pacific's remarkable transformation in the last few decades, largely made possible by a free, open, and rules-based order that has enabled countries to prosper as sovereign states. Today, the region accounts for over half of the world's population and 58 percent of the world's youth. The Indo-Pacific constitutes 60 percent of the world's gross domestic product (GDP), and two-thirds of global growth in GDP. It is also home to some of the world's largest militaries, as well as multiple disagreements about territory and borders.

The growing importance of the Indo-Pacific has renewed the world's focus on India, a civilization dating back thousands of years that sits at the region's heart and gives it its name. In recent years, the United States has prioritized attention and resources in the Indo-Pacific region, along with close cooperation with India.

As the world's oldest and largest democracies, the United States and India share a unique responsibility to promote peace and prosperity in the region. We both believe that this century will be an Indo-Pacific century, and that the U.S.-India relationship will be at its core.

The Indo-Pacific Concept: Thousands of Years in the Making

Although the term "Indo-Pacific" has taken hold only in the last few years, humans have been interacting with each other across the region for thousands of years. Four countries, led by both private citizens and governments, have played a particularly

Pablo Martinez Monsivais © AP Images

Prime Minister Jawaharlal Nehru (center) at the Asian-African Conference in Bandung, Indonesia in 1955.

important role in defining the concept and uniting the region – the United States, India, Japan, and Australia. All four are democracies, with freely-elected governments, whose citizens share ideas and engage throughout the region. These four countries have set forth a clear vision for the region that is inclusive, and open to all.

In 1655, the Mughal Prince Dara Shikoh was one of the first to identify the concept of the Indo-Pacific. In his book *The Confluence of the Two Seas*, he refers to a "dynamic coupling" of the Indian and Pacific oceans. The idea of linking the two oceans grew after World War II, when the scourges of war were felt across the region. In March 1947, even before achieving independence, India hosted an Asian Relations Conference in New Delhi with participation ranging from the Middle East to Korea to Australia. In 1955, Prime Minister Jawaharlal Nehru was one of the organizers of the Asian-African Conference in Bandung, Indonesia, in which U.S. Congressman Adam Clayton Powell and renowned U.S. author Richard Wright also participated.

In the 1960s and 1970s, Japanese and Australian economists began to call for regional economic structures. Following the creation of the Association of Southeast Asian Nations (ASEAN) in 1967, an ASEAN Regional Forum was established in 1994 for partners from the wider region. In 1989, Australian Prime Minister Bob Hawke launched the Asia-Pacific Economic Cooperation (APEC) forum, which brought together governments from Asia as well as North and South America to discuss expanding trade. The Indian Ocean Rim Association (IORA) was created in 1997, with India as a founding member. In 2002, Indian Professor Sanjay Chaturvedi and Australian Professor Dennis Rumley created the Indian Ocean Research Group to unite academics across the region. The 2004 tsunami that hit Southeast Asia and the Indian Ocean area inspired spontaneous but concerted leadership from the United States, India, Japan, and Australia in providing relief to the region.

The Indo-Pacific concept came into its own in 2007, when Japanese Prime Minister Shinzo Abe laid out a vision for the region in a speech to the Indian Parliament on the "Confluence of the Two Seas." He called for an "arc of freedom

and prosperity" to link "broader Asia," including India, Japan, Australia, and the United States. That same year, Indian naval officer Gurpreet Khurana published what was likely the first academic article to describe the "Indo-Pacific region" in the journal of the Indian Institute of Defence Studies and Analyses. U.S. Vice President Richard B. Cheney played a leading role in convening a May 2007 meeting among the United States, India, Australia, and Japan – then known as the Quadrilateral Security Dialogue – to discuss a like-minded approach to the Indo-Pacific.

In 2011, U.S. Secretary of State Hillary Clinton said that the United States sought to expand its "alliance with Australia from a Pacific partnership to an Indo-Pacific one." In 2012, Japanese Prime Minister Abe wrote an article calling for a "democratic security diamond" of these four countries to ensure a democratic-led peace in the region. Indian Prime Minister Manmohan Singh used the term Indo-Pacific in a May 2013 speech in Japan. And in 2013, Australia became the first country to use the term in an official document, describing the "emergence of the Indo-Pacific as a single strategic arc" in a defense white paper.

The Emergence of the Free and Open Indo-Pacific Concept

Under the positive and inclusive leadership of the United States, India, Japan and Australia, the vision for a free and open Indo-Pacific continues to grow and gain strength. In January 2015, U.S. President Barack Obama and Indian Prime Minister Narendra Modi issued a Joint Strategic Vision for the Asia-Pacific and the Indian Ocean Region. In December 2015, India and Japan issued a joint statement affirming their "unwavering commitment to realize a peaceful, open, equitable, stable, and rule-based order in the Indo-Pacific region and beyond." In an April 2017 annual policy document, Japan laid out details of its "Free and Open Indo-Pacific Strategy." And in November 2017, U.S. President Donald J. Trump described the U.S. vision for a free and open Indo-Pacific as one where "sovereign and independent nations, with diverse cultures and many different dreams, can all prosper side-by-side, and thrive in freedom and in peace."

Carolyn Kaster © AP Images

Anthony Wallace © AP Images

Far left: In January 2015, President Barack Obama and Prime Minister Narendra Modi issued a Joint Strategic Vision for the Asia-Pacific and the Indian Ocean Region.

Left: At the APEC Summit in Vietnam in November 2017, President Donald J. Trump laid out a clear vision for a free and open Indo-Pacific.

U.S. Embassy New Delhi

Ambassador Kenneth I. Juster's inaugural policy address on U.S.-India relations in January 2018.

That same month – November 2017 – the United States, India, Japan, and Australia held the first Quadrilateral (Quad) consultations in a decade. In Australia's November 2017 Foreign Policy White Paper, Prime Minister Malcolm Turnbull declared that his country was "determined to realize a secure, open, and prosperous Indo-Pacific." In June 2018, Indian Prime Minister Modi presented India's Indo-Pacific vision at the Shangri-La Dialogue. And in June 2019, ASEAN published its outlook on the Indo-Pacific. It has now become clear that the era of the Indo-Pacific has arrived.

The U.S. Indo-Pacific Vision

The United States has made the Indo-Pacific a national priority. Building upon years of U.S. engagement in the region, President Trump stated at the APEC Summit in Vietnam in November 2017 that a free and open Indo-Pacific was central to U.S. interests in the region, and that the region was central to U.S. national security.

The Indo-Pacific's importance to the United States was reinforced in the December 2017 U.S. National Security Strategy, which defined it as one of the six distinct regions of the world. Initially, the U.S. concept of the Indo-Pacific stretched from India to the West Coast of the United States, from Bollywood to Hollywood. After consultations with India and other partners, the United States updated the geographic contours to include the rest of the Indian Ocean to the East Coast of Africa.

In January 2018, U.S. Ambassador to India Kenneth I. Juster underlined in his inaugural policy address to the Indian people that, for India and the United States, "the Indo-Pacific is vital to the security and prosperity of our people as well as others." He described a vision for U.S.-India cooperation and leadership in the region. In November 2018, U.S. Vice President Michael R. Pence elaborated on the concrete steps that the United States was taking to advance the Indo-Pacific vision, in cooperation with partners. He stated that the United States "has placed renewed emphasis on our strategic partnership with India." The U.S. government also renamed its Hawaii-based Pacific Command as the U.S. Indo-Pacific Command (USINDOPACOM), and its Asia-Pacific office at the Pentagon as the Indo-Pacific office.

The U.S. Indo-Pacific Strategy and Leadership in the Region

The United States developed a broad Indo-Pacific Strategy (IPS) to support its vision for the region, better coordinate with partners and allies, and marshal its own resources. The strategy is holistic and encompasses three pillars – economic prosperity, good governance, and peace and security. Human capital development cuts across our efforts in all three pillars.

A strong, rules-based architecture anchors the U.S. vision for the region. Regional organizations such as ASEAN are essential to that architecture, as are APEC, the Lower Mekong Initiative, and IORA. The United States has increased its engagement with multilateral institutions and groups of like-minded partners, such as the Quad. In addition, the United States strengthened bilateral cooperation with those that share its vision for the region, including India, Japan, Australia, the Republic of Korea, and Taiwan.

Harnessing the potential of the private sector to drive economic growth is central to the economic prosperity pillar of the IPS. The private sector offers the most powerful, transparent, and sustainable source of growth. Moreover, no government can solely fund the $1.7 trillion needed annually for infrastructure in the Indo-Pacific. Thus, the IPS seeks to channel some of the $70 trillion invested in global financial markets toward the region.

The United States is the largest source of foreign direct investment in the Indo-Pacific. The United States also conducted over $1.9 trillion in two-way trade within the region in 2018, supporting more than 3 million jobs in the United States and 5.1 million jobs in the Indo-Pacific. In addition, the United States is the largest donor of development assistance in the region, contributing $2 trillion since the end of World War II, and is an important source of remittances and non-profit spending.

Under the IPS economic prosperity pillar, the United States has launched or expanded several initiatives. The Indo-Pacific Business Forum, which was inaugurated by the U.S. Secretaries of State, Commerce, and Energy in July 2018, has been an

THE BLUE DOT NETWORK PROMOTES HIGH-QUALITY INFRASTRUCTURE AND DEVELOPMENT

A prominent example of the positive agenda of the United States and like-minded partners for the Indo-Pacific region is the Blue Dot Network (BDN). The United States, Australia, and Japan announced the BDN, which aligns with the G20's Principles for Quality Infrastructure Investment, during the November 2019 Indo-Pacific Business Forum in Bangkok. The BDN brings together governments, the private sector, and other organizations to meet a set of high-quality global infrastructure development standards. Any country or company can participate in the BDN, if it agrees to adhere to the program's high standards of quality, private sector-led investment. By providing a globally-recognized seal of approval signifying adherence to high standards, the BDN will promote market-driven, transparent, and financially-sustainable infrastructure projects. When projects are certified by the BDN, communities and investors can be confident about the high standards and sustainability of the infrastructure and its influence on the Indo-Pacific region.

important platform for strengthening commercial ties in the region. In the past few years, the United States has provided over $3 billion for development programs in the Indo-Pacific. The U.S. International Development Finance Corporation (DFC), created by the U.S. Congress in 2018 and endowed with $60 billion, will finance development projects that encourage future growth in the region.

To spur private sector investment in infrastructure, the United States established the Infrastructure Transaction and Assistance Network (ITAN) in July 2018. So far, ITAN has helped advance more than $125 billion in infrastructure projects in the Indo-Pacific. The DFC will support the Blue Dot Network, in collaboration with other partners such as Japan, Singapore, and Australia, to build high-quality infrastructure in the region. The U.S. government created Asia EDGE (Enhancing Development and Growth through Energy), which has provided more than $200 million to enhance energy security, attract private sector investment, and help partner nations strengthen energy policy in the region. The United States also introduced the Digital Connectivity and Cybersecurity Partnership, which supports digital growth and security and attracts private technology sector investment.

The United States created the IPS governance pillar to empower the region's citizens and governments, as well as to support the rule of law, combat corruption, and build resilience to malign foreign influence. To advance these goals, Vice President Pence launched the Indo-Pacific Transparency Initiative in November 2018. Through this program, the United States has provided more than $600 million to enhance fiscal transparency, strengthen youth development, support media freedom, and protect fundamental rights. The United States has also supported regional groups such as ASEAN, APEC, and IORA, which keep governance standards and transparency high.

The IPS peace and security pillar has many goals. Working with its partners, the United States intends to counter transnational threats, increase maritime domain awareness, respond more effectively to natural disasters, and protect the environment. Ultimately, this will also encourage economic growth. Through improved information sharing, the United States has strengthened the capacity of security forces from India and other like-minded nations in the region. The presence of 375,000 U.S. military and civilian personnel, 2,000 aircraft, and 200 ships and submarines in the region demonstrates the enduring commitment of the United States to security in the Indo-Pacific.

In the last few years alone, the U.S. Department of State and the U.S. Agency for International Development (USAID) have provided more than $1.1 billion in security assistance to the region, including funds for the Bay of Bengal Initiative. The U.S. Department of Defense has provided nearly $250 million to increase information sharing and interoperability with partners. The United States has also expanded support for partners to counter transnational crime, including illegal wildlife trafficking and fishing. In addition, the United States has contributed to environmental security by helping partners protect vulnerable ecosystems and

U.S. Marine Corps/Cpl. Isaac Ibarra

U.S. Marines and Nepalese soldiers unload relief material for people affected by the earthquake in Nepal, during Operation Sahayogi Haat, *in 2015.*

INDO-PACIFIC DISASTER RESPONSE

The United States and India have a long history of leading responses to disasters and humanitarian crises in the Indo-Pacific. We joined with Japan and Australia to lead the regional response to the 2004 earthquake and tsunami. When an earthquake struck Nepal in 2015, India quickly mobilized disaster response and medical teams, and the United States worked with Indian counterparts to provide search and rescue support and relief supplies. In 2015, the United States coordinated with India as it played a leading role in evacuating thousands of civilians from conflict in Yemen. These experiences led U.S. Secretary of State John Kerry, Indian External Affairs Minister Sushma Swaraj, and Japanese Foreign Minister Fumio Kishida to declare at the 2015 Trilateral Ministerial: "Recognizing the three countries' extensive disaster response capabilities and converging interests, the three sides agreed to convene an experts-level group on humanitarian assistance and disaster relief to enhance ability to respond jointly to complex disasters." This group met in 2016 to share best practices and plans for the future. USAID has cooperated with Indian government partners on disaster preparedness and response across South Asia. In 2019, India launched the Coalition for Disaster Resilient Infrastructure (CDRI), which the United States joined, to promote high-standard infrastructure projects that enhance South Asia's preparedness for natural disasters. In addition, the U.S government, through USAID, is supporting the CDRI Secretariat in strategic communications.

improve disaster response. Finally, the United States has invested more than $54 million to enable Indo-Pacific partners to participate in UN peacekeeping missions around the world.

The U.S. Indo-Pacific Strategy is also strengthening the region's human capital and people-to-people ties. Today, more than 100 current or former heads of state and 360 current or former cabinet ministers in the Indo-Pacific region have participated in U.S. government exchange programs. In fact, there are over 357,000 alumni of U.S. exchange programs across the region currently working in government, academia, business, and civil society. In the last two years, more than 4,500 people from Indo-Pacific countries have participated in the Fulbright and International Visitor Leadership Programs. There are more than 730,000 students from the Indo-Pacific studying in the United States, and nearly 20 percent of Americans studying abroad go to the Indo-Pacific. The United States has supported English language training for more than 72,500 Indo-Pacific students.

The Indian Indo-Pacific Vision and Leadership in the Region

India has made the Indo-Pacific a priority. The Indo-Pacific vision that Prime Minister Modi unveiled in June 2018 built on India's long history in the region. Indians have been traveling and trading across the Indo-Pacific for centuries. In the early 1990s, however, Prime Minister P. V. Narasimha Rao introduced a "Look East Policy" that focused on economic ties with East Asia. In August 2014, External Affairs Minister Sushma Swaraj announced an "Act East" policy, which expanded the geographic and topical scope of India's engagement. As part of its Pacific engagement, India hosted the Forum for India-Pacific Islands Cooperation in 2014 and 2015. In 2017, India and Japan announced an Asia-Africa Growth Corridor to build ties across the region.

At the 2018 Shangri-La Dialogue in Singapore, Prime Minister Modi described an Indo-Pacific vision similar to that of the United States, Japan, and Australia. He stated that India would "promote a democratic and rules-based international order, in which all nations, small and large, thrive as equal and sovereign." Prime Minister Modi emphasized that India's vision was a positive and inclusive one, based on the geography of a "natural region." He noted that India's strategic partnership with the United States had assumed new significance in a changing world, with an important pillar dedicated to a "shared vision of an open, stable, secure, and prosperous Indo-Pacific region."

In the last few years, India has launched new initiatives to support this vision. At the East Asia Summit in November 2019, Prime Minister Modi announced the Indo-Pacific Oceans Initiative. Under this Initiative, different countries would lead cooperation in areas such as maritime security, maritime ecology, and trade connectivity. In December 2019, India made the Indo-Pacific the theme of both the Delhi Dialogue with ASEAN countries and the Indian Ocean Dialogue with IORA

countries. India has engaged in 2+2 Ministerial Dialogues with the United States, Japan, and Australia. India reorganized its Ministry of External Affairs to reflect this priority by creating an Indo-Pacific Division in 2019 and an Oceania Division in 2020.

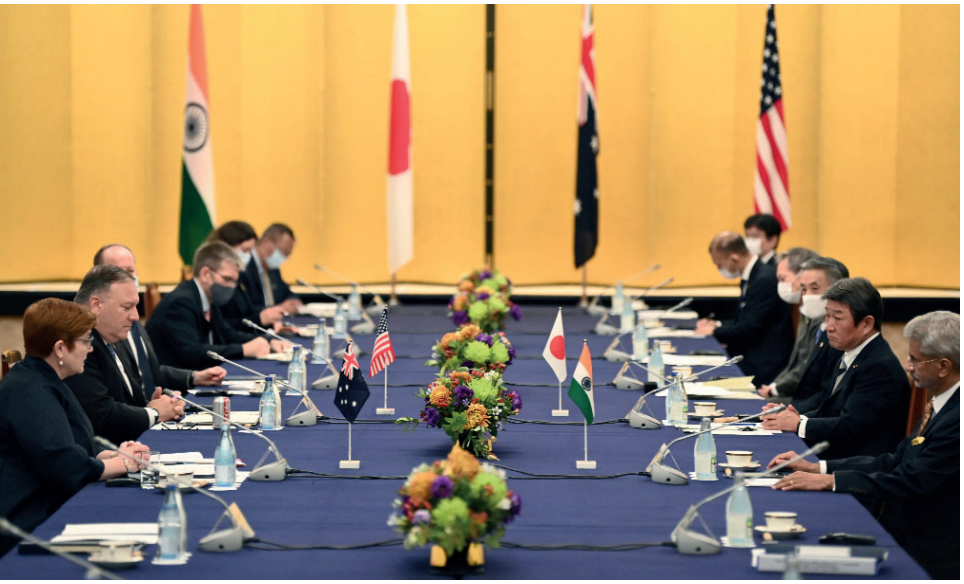
India has also expanded its role in Indo-Pacific security. In 2017, the Indian Navy launched mission-based deployments in seven locations across the Indian Ocean region. The Navy carried out coordinated maritime patrols with Bangladesh, Indonesia, Myanmar, and Thailand. In December 2018, India opened the Information Fusion Centre - Indian Ocean Region to exchange information with like-minded countries on maritime security. It has operationalized white shipping agreements with 17 countries to exchange data on commercial maritime traffic. India signed defense logistics agreements to exchange fuel and other support with the United States, France, Australia, Japan, South Korea, and Singapore. India helped install coastal surveillance radars in several Indian Ocean countries, and provided humanitarian assistance to Madagascar, Mozambique, Yemen, and Nepal.

In the last few years, India has expanded its trade and development assistance throughout the region. In June 2015, India signed a Motor Vehicles Agreement with Bangladesh, Bhutan, and Nepal to improve cross-border movement of passengers and goods. India has supported the India-Myanmar-Thailand Trilateral Highway, the Kaladan Multi-Modal Transit Transport Project with Myanmar, and initiatives to improve trade between the Andaman Islands and Aceh, Indonesia.

India has extended a $1 billion line of credit to ASEAN countries for connectivity and infrastructure projects. In 2019, India signed an agreement with Japan and Sri Lanka to develop a container terminal at the Port of Colombo. India's Export-Import Bank has financed over $24 billion in development projects in South Asia and Africa. In addition, India's National Centre for Good Governance has provided training for civil servants from Indo-Pacific countries.

In 2019, India signed an agreement with Japan and Sri Lanka to develop a container terminal at the Port of Colombo.

© AP Images



Charly Triballeau © AP Images

Australia's Foreign Minister Marise Payne (left), U.S. Secretary of State Michael R. Pompeo (second from left), Indian External Affairs Minister Subrahmanyam Jaishankar (right), and Japan's Foreign Minister Toshimitsu Motegi (second from right) attend a Quad Ministerial in Tokyo in October 2020.

Alongside efforts to strengthen security, trade and development, and connectivity in the region, the Indian government has expanded programs that support people-to-people ties in the Indo-Pacific, including for people of Indian origin. For example, in September 2019, India launched a program offering Ph.D. fellowships at Indian universities for students from ASEAN countries.

2015-2020: A Shared U.S.-India Vision and Joint U.S.-India Leadership in the Indo-Pacific

In recent years, the United States and India have worked together to sustain a free and open Indo-Pacific. Following the 2015 Joint Strategic Vision for the region, our leaders have regularly discussed the Indo-Pacific and provided guidance for our bilateral efforts. For example, our diplomatic coordination in the Indo-Pacific was an important topic at the U.S.-India Strategic and Commercial Dialogues, and the U.S.-India 2+2 Ministerial Dialogues.

In 2017, President Trump and Prime Minister Modi committed to a set of common principles for the region. They reiterated the importance of freedom of navigation, overflight, and commerce; called upon all nations to resolve territorial and maritime disputes peacefully and in accordance with international law; supported bolstering regional economic connectivity through the transparent development of infrastructure and the use of responsible debt financing practices; committed to respect for sovereignty and territorial integrity, the rule of law, and the environment; and called on other nations in the region to adhere to these principles. During President Trump's trip to India in February 2020, he and Prime Minister Modi affirmed that: "A close partnership between the United States and India is central to a free, open, inclusive, peaceful, and prosperous Indo-Pacific region."

Our two nations have joined with like-minded partners to promote a common vision for the Indo-Pacific and ensure support for ASEAN and the institutional

U.S. AND INDIAN SUPPORT FOR THE TIBETAN PEOPLE

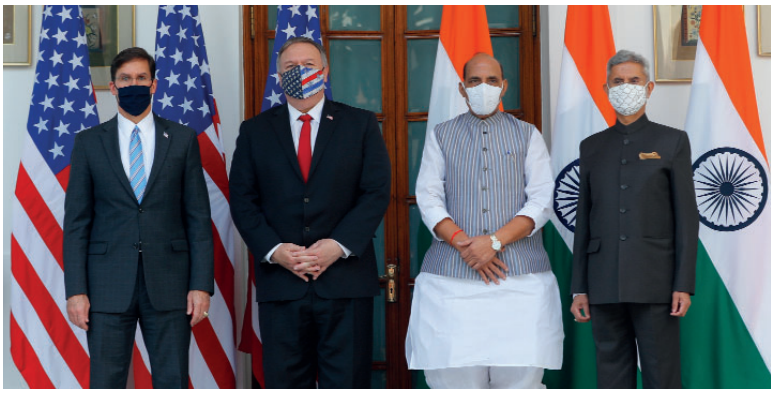
The United States and India have worked together to support the cultural heritage of the Indo-Pacific region, including that of the Tibetan people. India has done more than any other country to protect the cultural and religious identity of the Tibetan people, particularly by hosting the Dalai Lama and tens of thousands of Tibetan refugees in India. The United States has also provided cultural, educational, and other support to Tibetans, as directed by the Tibetan Policy Act of 2002. This law, passed by the U.S. Congress, seeks to "support the aspirations of the Tibetan people to safeguard their distinct identity." In 2007, the U.S. Congress awarded the 14th Dalai Lama the Congressional Gold Medal, Congress' highest civilian honor, in recognition of the vital role he has played in advancing peace and human rights. In recent years, USAID has executed programs to strengthen the health and education systems in Tibetan communities, and to support the India-based Central Tibetan Administration through leadership and administrative training.

Evan Vucci © AP Images

President George W. Bush presents the Congressional Gold Medal to His Holiness the 14th Dalai Lama in Washington, D.C.

Tenzin Kalden

The U.S. Agency for International Development supports more than 40 young artists every year at the Tibetan Institute of Performing Arts in Himachal Pradesh.



Adnan Abidi © AP Images

U.S. Secretary of Defense Mark T. Esper (from left), U.S. Secretary of State Michael R. Pompeo, Indian Defense Minister Rajnath Singh, and Indian External Affairs Minister Subrahmanyam Jaishankar at the U.S.-India 2+2 Ministerial Dialogue in New Delhi in October 2020.

architecture of the region. Trilateral cooperation with Japan and quadrilateral cooperation with Japan and Australia have been crucial to this endeavor. The first U.S.-India-Japan Trilateral Ministerial was held in September 2015, building on years of successful coordination among senior officials. Regular Quad meetings of senior officials resumed in 2017 and were upgraded to minister-level consultations in 2019. The Quad has been an important mechanism to discuss topics such as economic connectivity, maritime security, and regional institutions. Experts in fields such as cyber and counterterrorism from the Quad countries have held consultations and table-top exercises. The United States has also engaged with non-governmental partners in events such as the Indian Ocean Conference, which is organized in a different country each year by the New Delhi-based India Foundation.

Our bilateral defense cooperation has helped provide the stability that the region needs for economic growth and prosperity. We have improved defense interoperability through exercises such as *Malabar* with Japan and, more recently, Australia, as well as the group exercise we conducted with the Japanese and Philippine navies in the South China Sea in May 2019. The United States and India have organized several rounds of a UN Peacekeeping Course for African Partners at the Indian Army's Centre for UN Peacekeeping in New Delhi. Our joint law enforcement efforts against terrorism, narcotics, cybercrime, and other types of criminal activity have also benefited the Indo-Pacific.

The United States and India have strengthened their cooperation in trade and investment in the Indo-Pacific.

> Together, we can be force multipliers and deliver really good outcomes not only for the people of India and for the Indo-Pacific, but for the entire world.
>
> *—U.S. Secretary of State Michael R. Pompeo, 2020*

Government officials, business groups, and private firms have participated in regional meetings such as the Indo-Pacific Business Forum to improve the business climate and strike new deals. Wide-ranging bilateral dialogues have focused on ways to improve the Indo-Pacific economy, including integrating our supply chains and making them more sustainable. The United States and India have worked with other Indo-Pacific partners to advance economic issues in structured formats such as the U.S.-India-Japan Joint Working Group on Connectivity and the U.S.-India-Japan Trilateral Infrastructure Working Group.

The United States and India have also coordinated our development efforts. Following the November 2014 U.S.-India Statement of Guiding Principles on Triangular Cooperation for Global Development, we have worked together in 20 African and Asian countries on agriculture, health, women's empowerment, and other fields. For example, USAID supported training for agricultural experts from Kenya, Malawi, and Liberia at Indian agricultural institutes. In February 2020, President Trump and Prime Minister Modi announced an expansion of this triangular development cooperation with a new partnership between USAID and India's Development Partnership Administration (DPA). Since then, USAID has invested $7 million in triangular cooperation for global development, partnering with the DPA.

USAID works with Indian partners to transfer mini tractors and food processors to Kenyan farmers.

A Peaceful and Prosperous Future in the Indo-Pacific, Led by the United States and India

The United States and India have long been leaders in the Indo-Pacific, contributing to the region's growth and maintaining its stability. In recent years, this shared commitment to the region has blossomed into a strategic convergence of vision and effort. In the face of threats ranging from unilateral attempts to change borders to persistent poverty and disease, the United States and India have put forward a positive and inclusive concept for the region. U.S.-Indian leadership as democratic stalwarts in the Indo-Pacific will be necessary in the years ahead to ensure that the region remains free and open.

DEFENSE, COUNTERTERRORISM, AND LAW ENFORCEMENT

As the world's two largest democracies, the United States and India share a responsibility to protect our citizens and help provide security and stability in the Indo-Pacific region. As proud nations with long histories of achievement and contributions to humanity, we are committed to defending our sovereignty and territorial integrity from external coercion. And as entrepreneurial nations, we understand that prosperity and development require security.

Drawing on these shared principles and with firm support from our citizens, the United States and India have steadily increased cooperation among our defense and security forces through information sharing; defense planning, exercises, and exchanges; defense industrial cooperation; and counterterrorism and law enforcement activities. This has involved sharing some of our countries' most sensitive information and technology, as well as dedicating substantial personnel and resources to joint efforts.

We have done this because the United States and India face common threats and challenges, ranging from unilateral efforts to change borders and disrupt the rules-based

U.S. and Indian Navy ships sail in formation in the Indian Ocean in March 2018.

U.S. Navy/Mass Communication Specialist 3rd Class Spencer Roberts

international order, to regional and global terror networks, to drug traffickers and malicious cyber actors. We have sought to keep our nations safe today, but also to increase interoperability and habits of cooperation among our defense and security forces so that we are prepared to deal with the threats of tomorrow.

By strengthening our shared resolve and ability to confront common threats, we make clear to our publics and the world our determination to defend our development goals, our democratic way of life, and the rules-based international order.

A History of Defense and Security Cooperation

U.S.-India defense and security cooperation is not new. During the Korean War (1950-1953), the Indian government warned the United States of the impending Chinese entry into the conflict and the threat to U.S. troops. India and the United States then worked together at the United Nations to denounce the aggression against South Korea. India later sent the 60th Parachute Field Ambulance Platoon to the Korean Peninsula to support the United Nations forces, which included U.S. troops.

Later, as tensions built on India's northern border, President Dwight D. Eisenhower visited India in December 1959 to show solidarity with the Indian government and people. When conflict with China broke out in October 1962, the United States stood by India, responding quickly to Indian requests for military

assistance. The United States flew in clothes, weapons, and ammunition, first to Kolkata, and then to the front lines, on U.S. Air Force C-130s.

After a long period of strained ties, our defense and security partnership restarted and then expanded in the 1990s and 2000s, with regular military exercises, new policy agreements, and increased cooperation on counterterrorism. In 1992, the U.S. and Indian navies began annual joint exercises, called *Malabar*, to coordinate on maritime security and disaster response. In 1995, our governments formalized our growing military cooperation with the Agreed Minute on Defense Relations, then broadened it in 2005 when Secretary of Defense Donald Rumsfeld and Indian Minister of Defense Pranab Mukherjee signed the New Framework for the U.S.-India Defense Relationship. In 2004, our armies began the *Yudh Abhyas* exercise and our air forces launched the *Cope India* exercise.

Tragically, both the United States and India have long suffered from terrorist attacks, including from transnational groups with links to state-based actors. As attacks against each of us increased in the 1990s and 2000s, we recognized our common interest in cooperating against terrorism and started to work together to strengthen our resolve and our joint efforts. In 2000, we established the U.S.-India Counter Terrorism Joint Working Group to coordinate policies and share information. We expanded this cooperation with the Counterterrorism Initiative in July 2010, which covered maritime and border security, investigations and forensics, and terrorist financing, and included cooperation between counterterrorism units such as the National Security Guard. In the same year, we announced the creation of a cabinet-level U.S.-India Homeland Security Dialogue to ensure high-level support for counterterrorism and law enforcement cooperation.

During his November 2010 visit to Mumbai, U.S. President Barack Obama commemorated the November 2008 attacks in the Maximum City that killed Americans as well as Indians, while emphasizing the importance of our joint efforts to combat terrorists. President Obama stated: "Our governments have worked closer than ever, sharing intelligence, preventing more attacks, and demanding that the perpetrators be brought to justice."

Courtesy defense.gov

Indian Defense Minister Pranab Mukherjee and U.S. Secretary of Defense Donald H. Rumsfeld establish a new framework for the U.S.-India security relationship, in Washington, D.C. in June 2005.

Recent Expansion of Ties: India as a U.S. "Major Defense Partner"

In the last few years, we have deepened our defense and security cooperation in

U.S. Army

U.S. and Indian soldiers participate in Yudh Abhyas *at Chaubattia Military Station in Uttarakhand in 2018.*

order to keep our nations safe from a growing array of threats, and to provide security beyond our own borders. This effort has had strong support from our leaders, and is clearly reflected in our official statements and strategic documents. The 2015 U.S. National Security Strategy highlighted the growing priority given to India and U.S.-India ties, as it affirmed the U.S. intention to strengthen the relationship and to support India's growing role as a regional provider of security.

In 2016, the U.S. Congress designated India as a "Major Defense Partner," making it the only country to hold this special status. This designation supported India's access to sensitive defense technology and reinforced India's significant role in U.S. national security strategy. The 2017 National Security Strategy document welcomed "India's emergence as a leading global power and stronger strategic and defense partner," stating clearly the importance of our growing relationship. In 2018, the U.S. Department of Defense changed the name of its regional combatant command, based in Hawaii, from the U.S. Pacific Command to the U.S. Indo-Pacific Command, reflecting India's central role in the Indo-Pacific region.

The defense and security relationship reached a new level in September 2018 with the establishment of the 2+2 Ministerial Dialogue, a cabinet-level meeting among U.S. and Indian defense and foreign policy leaders. This important step reflected our increasingly close defense ties and visions for regional security, and our

joint commitment to coordinate defense activities to ensure peace and prosperity in the Indo-Pacific region. The creation of the 2+2 Ministerial also provided a framework for coordination and expansion of our joint efforts. Following these developments with India and other important partners in the Indo-Pacific, the U.S. Department of Defense released its first-ever report on the region, entitled: "Indo-Pacific Strategy Report: Preparedness, Partnerships, and Promoting a Networked Region." This report emphasized the importance of U.S.-India partnership for advancing our common interests in the region.

I am confident that now more than ever, the strategic handshake between the United States and India will continue to benefit each of our nations, the Asia-Pacific, and the world. The grasp of two hands is firm.

—Secretary of Defense Ashton B. Carter, 2015

Increasing Our Security through Policy Consultations and Interoperability Agreements

Increased U.S.-India defense consultations and the signing of new security agreements have been important steps in keeping our people safe. These have allowed us to take stock of the changing threats in today's world, to better plan our activities and allocate our resources, and to increase our interoperability. Our top defense civilian and uniformed military leaders have spearheaded these efforts, including through regular visits to each other's countries by the U.S. Secretary of Defense and the Indian Minister of Defense.

Such discussions led to the 2002 General Security of Military Information Agreement (GSOMIA) – the first of four "foundational" defense agreements, protecting the exchanges of sensitive military information. That same year, we resumed bilateral defense sales with India's agreement to purchase Firefinder radar platforms. To enable our private firms to work together on the co-development and co-production of technologically-advanced defense systems, we signed an Industrial Security Annex to the GSOMIA in 2019. This facilitated the sharing of sensitive government information with private industry, boosting our security and our economies.

As the U.S. and Indian militaries began to train and operate more together, it became clear we needed a mechanism to exchange fuel and other supplies quickly, yet still ensure accountability. We thus signed the Logistics Exchange Memorandum of Agreement (LEMOA) in 2016. This has allowed us to increase our interoperability, including through refueling visiting aircraft and ships at sea. In 2017, we signed a Helicopter Operations from Ships other Than Aircraft Carriers (HOSTAC) agreement to enable our respective helicopters to operate from each other's ships. And as we

U.S. and Indian navies participate in a replenishment-at-sea exercise during Malabar *2018.*

further increased our joint exercises and operations, our units needed a system and equipment to communicate securely in real time without having to go through headquarters. We thus signed the Communications Compatibility and Security Agreement (COMCASA) in 2018, which enabled the sharing of communications security systems and protocols. Moreover, expanded U.S.-India defense cooperation was at the forefront of the October 2020 U.S.-India 2+2 Ministerial in New Delhi. At the Ministerial, the United States and India signed the Basic Exchange and Cooperation Agreement (BECA) to enable greater sharing of geospatial information between our armed forces.

Increasing Our Security through Military Exercises

This top-level policy guidance and the various agreements have facilitated the growth in frequency, scope, and complexity of U.S. and Indian military exercises and joint training. Our navies, armies, and air forces have all improved their interoperability through such activities. The U.S. and Indian navies expanded the *Malabar* exercise, which rotates between the Indian and Pacific Oceans, to include the Japan Maritime Self-Defense Force in 2007 and expanded further in 2020 to include Australia. And the Indian Navy has become a regular participant in the multinational *Rim of the Pacific* exercise, or RIMPAC, along with the United States and other Indo-Pacific countries.

TIGER TRIUMPH

U.S. Navy/Mass Communication Specialist 1st Class Toni Burton

All three Indian military services trained alongside the U.S. Army, Navy, and Air Force in 2019 for our first tri-services military exercise. The exercise, named *Tiger Triumph*, is part of the ongoing partnership between the U.S. and Indian militaries and is a key component of securing the Indo-Pacific.

"The U.S.-India partnership at sea is critical to ensuring the safety of sea lanes and advancing maritime security in the Indo-Pacific region," U.S. Ambassador to India Kenneth I. Juster stated at the inauguration of the November 13-21 exercise. "The U.S.-India defense partnership is very strong and getting even stronger."

Tiger Triumph focused on humanitarian assistance and disaster relief, and included amphibious operations. The "Triumph" in its name stands for Tri-Services India U.S. Amphibious Exercise.

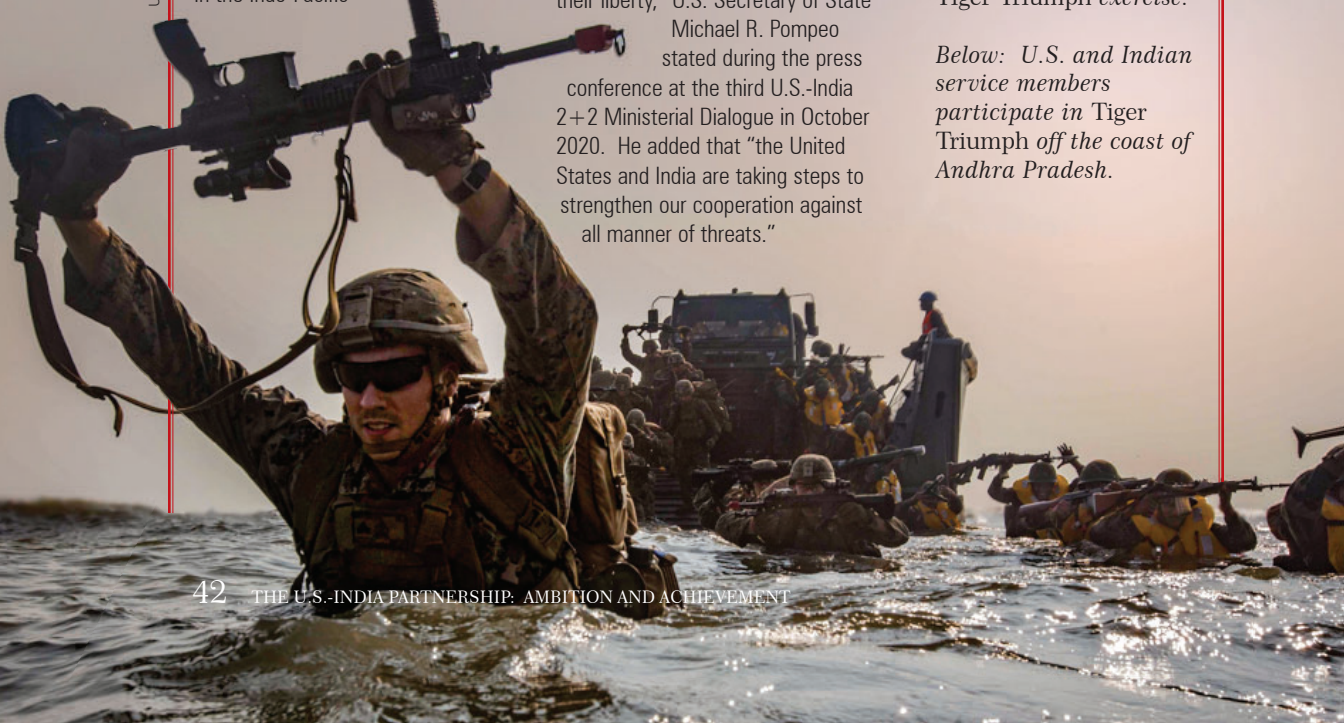
"The United States will stand with the people of India as they confront threats to their sovereignty and to their liberty," U.S. Secretary of State Michael R. Pompeo stated during the press conference at the third U.S.-India 2+2 Ministerial Dialogue in October 2020. He added that "the United States and India are taking steps to strengthen our cooperation against all manner of threats."

U.S. Consulate General Hyderabad

Top: A U.S. landing craft during the sea phase of the Tiger Triumph *exercise.*

Above: U.S. and Indian officials at the inauguration of the Tiger Triumph *exercise.*

Below: U.S. and Indian service members participate in Tiger Triumph *off the coast of Andhra Pradesh.*



U.S. Marine Corps/Lance Cpl. Christian Ayers

The U.S. and Indian armies have expanded their flagship exercise, *Yudh Abhyas*, which builds interoperability annually using a U.N. peacekeeping scenario. The U.S. and Indian air forces have similarly strengthened their cooperation through *Cope India*, a biannual exercise held in India that has expanded its levels of exchange and cooperation. And the Indian Air Force is a regular participant in the U.S. Air Force's premier war game, *Red Flag-Alaska*. In addition, U.S. and Indian special operation forces have increased their collaboration, including through the *Tarkash* and *Vajra Prahar* exercises. These have enhanced our ability to operate in asymmetric scenarios, including joint action against terrorist threats.

To build on the synergies of our individual service collaborations and to make our forces truly interoperable, we held the first ever tri-services exercise, *Tiger Triumph*, in November 2019, off the coast of Andhra Pradesh. This exercise, which involved our armies, navies, and air forces, tested our ability both to carry out amphibious landings and to provide humanitarian assistance. *Tiger Triumph* is expected to take place annually in the future.

As a result of these defense agreements and military exercises, our forces are now working more effectively together to keep the Indo-Pacific free and open. The U.S. and Indian navies seamlessly conduct underwater replenishments, share operational information, and partner on undersea domain awareness to ensure a common understanding of the operating environment in the Indian Ocean. In December 2018, an Indian Navy UH-3H helicopter landed on a U.S. Navy San Antonio-class amphibious transport ship, the USS *Anchorage*. Landing craft also embarked from the *Anchorage* to carry out ship-rider exchanges, an exercise often used to combat maritime piracy. Meanwhile, the *Anchorage* joined in maritime security exercises with an Indian guided-missile destroyer, the INS *Rajput*.

> We appreciate India's role as a stabilizing force on the region's geographic frontlines. Your nation understands better than many: peace and prosperity are only attainable when all respect the principles of territorial integrity, freedom of navigation, and freedom from coercion – all of these are fundamental to the rules-based international order.
>
> *—Secretary of Defense James N. Mattis, 2018*

Increasing Our Security through Exchanges, Training, and Liaison Officers

We have sought to ensure that our military forces are familiar with each other and interoperable on a human level. We did this by increasing exchanges, joint training, and postings of

The Indian Air Force operates 11 C-17 Globemaster aircraft.

Manish Swarup © AP Images

liaison officers. For several years, India has hosted U.S. military students at its National Defence College in New Delhi and its Defence Services Staff College in Wellington, Tamil Nadu. Every year, the United States hosts nine Indian officers at its premier military education institutions through the International Military Education and Training program. Since 2010, over 700 Indian military students have trained in the United States.

In addition to educational exchanges for military students and officers, we have begun exploring the posting of liaison officers at each other's military facilities. Such postings demonstrate mutual appreciation of each other's expertise and a high degree of trust. The United States has therefore only pursued them with our closest allies and partners. In 2020, the United States posted an officer to an Indian military facility for the first time – a U.S. naval officer at the newly-established Information Fusion Centre - Indian Ocean Region in Gurugram, Haryana. Similarly, India posted an officer to a U.S. command for the first time – an Indian naval officer at the U.S. Naval Forces Central Command, in Manama, Bahrain.

Strengthening Economies through Defense Technology and Industrial Cooperation

In recent years, the United States and India have significantly expanded defense industrial cooperation, helping ensure that we have the right equipment and platforms to keep our countries safe. The U.S. government and defense industry have increased joint research, production, and defense sales with India. Reflecting our commitment to strengthen India's defense capabilities and security role in the Indo-Pacific region, the United States has increased the sharing of defense technology and knowledge. India's increasing use of defense equipment from the United States and other Western partners not only has strengthened India's

military, but also has improved our ability to communicate and operate jointly.

The Indian Air Force now operates 11 C-17 Globemaster aircraft, the largest fleet outside of the United States. These large planes enable India to safely transport personnel and equipment for a range of military and humanitarian missions. In April 2015, the Indian Air Force used three C-17 planes to evacuate people fleeing civil unrest in Yemen. The planes were part of *Operation Raahat*, an impressive demonstration of India's ability to play a leading role in the region, as Indian planes and ships rescued over 4,600 Indian citizens and nearly 1,000 foreign nationals.

The Indian Navy is similarly the largest operator, other than the United States, of the P-8 Poseidon, an aircraft specializing in anti-submarine warfare, anti-surface warfare, and shipping interdiction. Other Indo-Pacific countries, such as Australia, South Korea, and New Zealand, operate or plan to operate the P-8 as well, ensuring greater maritime coordination across the region. The Indian military has inducted a range of other U.S.-origin platforms in recent years, including the C-130J Super Hercules transport planes, the AH-64E Apache and CH-47 Chinook attack and transport helicopters, and the M777 Ultra-Lightweight Howitzer artillery guns.

Expanded industrial collaboration has enabled U.S. defense companies to partner with Indian enterprises to develop and manufacture components for global supply chains. Many large U.S. defense firms, including Boeing, Lockheed Martin, BAE Systems, Inc., Raytheon Technologies, General Electric, and L3Harris, now have a presence in India. Their operations include research facilities and large-scale manufacturing, and their partners are small, medium, and large-sized Indian firms. India will soon be home to Boeing's largest presence outside of the United States, including a campus in Bengaluru that will employ hundreds of Indian engineers.

A U.S.-origin AH-64E Apache Helicopter in the Indian Air Force.

Channi Anand © AP Images

Both Boeing and Lockheed Martin have assembly plants in Hyderabad – Boeing for Apache helicopter fuselages and Lockheed Martin for C-130 empennages and F-16 wings.

Underlining the growing strength and trust of the defense partnership, the United States has relaxed export controls to India, including granting Strategic Trade Authorization, Tier-1 (STA-1) status to India in 2018. This status increases India's access to the most advanced defense technology in the world. The flow of advanced U.S. technology to India has grown rapidly, strengthening India's armed forces, its scientific community, and private industry.

The United States has also made significant diplomatic efforts to encourage other countries to support Indian membership in the four multilateral export control regimes. India has joined three of the regimes – the Missile Technology Control Regime in June 2016, the Wassenaar Arrangement (for dual-use goods and technologies) in December 2017, and the Australia Group (for chemical and biological weapons) in January 2018 – and still seeks membership in the Nuclear Suppliers Group. In light of these developments, India now has access to much of the most advanced technology in the world, and the ability to help design and enforce global non-proliferation controls.

Deepening Cooperation in the Fight Against Terrorism

The growing U.S.-India partnership has strengthened the security of our nations and our region by increasing cooperation against terrorism. In the face of continuing attacks, we have stood together, determined to demonstrate our resilience as diverse and tolerant democratic societies. We have prioritized joint

BRINGING CRIMINALS TO JUSTICE

India is a critical law enforcement partner in South Asia. The FBI's New Delhi Legal Attaché Office collaborates closely with Indian security agencies on a multitude of issues, including terrorism, cyber-crime, transnational organized crime, and prevention of child sexual abuse. The FBI's close partnership with Indian counterparts has resulted in disruption of criminal activity and terrorist attacks through investigative exchanges and capacity building programs.

The FBI and Indian law enforcement have worked together to disrupt ongoing criminal activity by various fraudulent call centers throughout India. The fraudulent call centers target elder Americans, resulting in hundreds of millions of dollars' worth of losses. The criminals use technical means to conduct fraud by impersonating U.S. or Indian law enforcement officials. For example, in November 2018, Indian federal and state law enforcement officials, working jointly with the FBI, executed simultaneous arrests and searches at over 16 fraudulent call centers in Gurugram, Haryana and Noida, Uttar Pradesh. The FBI and Indian law enforcement partners remain committed to stopping any criminal activity that affects the United States and India.

@State_SCA/Twitter

The Indian National Investigation Agency hosted the first counterterrorism exercise with the United States, India, Japan, and Australia in New Delhi in November 2019.

efforts to pursue justice for past attacks and to prevent future terrorist attacks.

The United States and India have regularly discussed terrorism at the highest levels, as demonstrated by strong pronouncements against terrorism in the joint statements following Prime Minister Narendra Modi's meetings with President Obama and with President Donald J. Trump. We have expanded information sharing, compared analytical work, and coordinated action against regional and global terrorist threats. The U.S.-India Counter Terrorism Joint Working Group, led by the U.S. Department of State and the Indian Ministry of External Affairs, with support from other government agencies, has met over 17 times since 2000. We established a U.S.-India Designations Dialogue in December 2017 to coordinate our approaches to designating individual terrorists and groups.

The U.S. Department of State has partnered with the Indian Ministry of Home Affairs to strengthen counterterrorism training at India's Central Academy for Police Training in Bhopal, the Central Detective Training Institute in Ghaziabad, and the Sardar Vallabhbhai Patel National Police Academy in Hyderabad. The Department of State has also provided support through the Anti-Terrorism Assistance program, including equipment and training for over 1,000 Indian personnel. Recognizing the importance of expanding international cooperation against terrorism among like-minded partners, India helped broaden our bilateral training efforts by hosting a Quad Counterterrorism Table-Top Exercise in November 2019.

The Federal Bureau of Investigation (FBI) has continued to work with Indian partners to bring justice for the victims of the 26/11 Mumbai terror attacks. In

November 2018, the FBI and the U.S. Department of State established a $5 million Rewards for Justice program to seek information leading to the arrest and conviction of Sajid Mir, the alleged chief planner of the Mumbai attacks. In recent years, the FBI Director and other top officials have met regularly with Indian counterparts. The FBI has worked with Indian partners to offer more than 15 training courses in India, exchanging best practices on topics such as post-blast and terrorism finance investigations, crisis management, and cyber investigations.

> Fifteen years after the conclusion of the first U.S.-India Defense Framework, the defense ties between our two nations remain a key pillar of our overall bilateral relationship. Based on our shared values and common interests, we stand shoulder-to-shoulder in support of a free and open Indo-Pacific for all.
>
> *—Secretary of Defense Mark T. Esper, 2020*

Combating the Threats of Drugs and Cybercrime

The United States and India have expanded cooperation to fight a broad range of criminal activity, including illicit drugs and malicious cyber activity. These efforts have received support from the highest levels of government. In February 2020, President Trump and Prime Minister Modi announced the creation of a new Counter-Narcotics Working Group between the law enforcement agencies of our countries to further improve our longstanding cooperation to combat illegal drugs.

The closer partnership has increased policy discussions and training among our law enforcement agencies. For example, the U.S. Drug Enforcement Agency (DEA) has exchanged best practices on combating the trade of synthetic drugs such as Fentanyl with India's Narcotics Control Bureau (NCB). The U.S. Department of State's Bureau of International Narcotics and Law Enforcement Affairs has supported multi-year training programs with Indian counterparts and officials from other South Asian countries.

Our bilateral cooperation against illegal drugs has yielded concrete successes. The DEA worked with India's Directorate of Revenue Intelligence (DRI) and the NCB to seize billions of illicit dosage units of Tramadol, part of the global opioid crisis, from multiple countries around the world. The DEA, the DRI, and the NCB then successfully worked with regulators to update control of Tramadol in 2018, leading to a drastic reduction in abuse of the drug. The DEA and other U.S. law enforcement partners have conducted successful operations with Indian authorities, including the NCB and the Indian Navy's Information Fusion Centre - Indian Ocean Region, that targeted the maritime smuggling of heroin and other illicit

drugs. In 2019, the DEA and the NCB led a combined operation to investigate a drug smuggling organization with ties in the United States, Canada, Australia, and countries in South America. The investigation resulted in the seizure of 200 kilograms of methamphetamine and 70 kilograms of cocaine.

Cybercrime, whether carried out by foreign governments or criminals, is another growing threat to the United States, India, and the world. The United States and India have worked together to protect personal user data, industrial designs, critical infrastructure, and other systems vital to modern societies. This cooperation has ranged from daily information sharing to policy coordination in planned dialogues.

Through the U.S.-India Cyber Dialogue, the United States and India have strengthened our Computer Emergency Response Team (CERT) cooperation and exchanged best practices on malware forensics, critical infrastructure protection, and combating disinformation. During the inaugural U.S.-India Defense Cyber Dialogue in 2020, the United States and India set up working groups to exchange best practices and agreed to explore cyber capacity building.

Looking to the Future

Our recent progress on defense and security issues, building on many years of history, has contributed to the safety of our citizens and the Indo-Pacific region. The habits of cooperation, personal ties, expertise, and equipment we have developed have prepared us to deal with future threats and challenges. As leading democracies in the Indo-Pacific, and indeed the world, we stand prepared to ensure that our peoples and those of other nations have the opportunity to thrive in a rules-based international order.

Altaf Qadri © AP Images

Indian Minister of Defense Rajnath Singh and U.S. Secretary of Defense Mark T. Esper meet before the U.S.-India 2+2 Ministerial Dialogue in October 2020.

TRADE, INVESTMENT, AND ECONOMIC GROWTH

Trade and investment have long been at the heart of the U.S.-India relationship. For over 200 years, Americans and Indians have displayed an exceptional entrepreneurial spirit in traversing the Indo-Pacific region to exchange goods and services, collaborate on joint enterprises, and spur innovation. They have been drawn by mutual goodwill, the size of our respective markets, unique products and comparative advantages, and the creativity and productivity of our peoples.

This commerce has grown over time as travel has become easier and technology has improved. Efforts by our governments have played an important role supporting these exchanges. For more than 200 years, U.S.-India trade has had a wide and lasting impact on our economies and societies. Our age-old connections are visible in historical buildings that bear witness to the many years of U.S.-India trade, in the goods and services we consume in our daily lives, and in the very people who make up our nations today.

Economic cooperation has raised living standards in the United States and India, increased access to higher-quality and lower-priced goods and services, and delivered wider

benefits to the world. U.S.-India commerce has inspired new firms and products, strengthened companies operating in both countries with information and services flowing across the Indo-Pacific, and propelled our two countries to become technological leaders in the 21st century.

A Long History of Partnership on Trade, Investment, and Economic Growth

Trade drove much of the early contact between Americans and Indians, starting with a merchant ship named the *United States*, which left Philadelphia packed with American goods and arrived in Puducherry in December 1784. The ship and its American crew departed in February 1785, having filled its hold with Indian spices, teas, and shawls for sale in the United States.

Trade was likely what motivated President George Washington to nominate Benjamin Joy in 1792 to be the first U.S. Consul to India. As bilateral commerce became more regular in the 1800s, local infrastructure followed. Indian merchants established warehouses and shops to sell their goods in places such as New York. American merchants did the same in India.

President Donald J. Trump engaged Indian business leaders at Roosevelt House, the U.S. Ambassador's residence in New Delhi, during his visit to India in February 2020.

U.S. Embassy New Delhi

One such building still stands today – an icehouse built in 1842 by American businessman Frederic Tudor along the beach in Chennai to store the ice he imported from New England for sale in India. Swami Vivekananda visited the building in 1897, four years after his historic trip to the United States when he introduced the Indian philosophies of Vedanta and yoga, and that building now houses an exhibition on his life.

By the end of the 1800s, a growing number of Indians were coming to the United States to seek economic opportunity. Many were farmers from Punjab, who settled in Central California, putting their skills and knowledge to use to help the region become a leading agricultural producer.

Commerce continued to grow in the first half of the 20th century, through contributions from individual entrepreneurs and major corporations alike. U.S.-based General Electric (GE) commissioned a hydroelectric power project in Karnataka in 1902, helping generate economic growth in South India for decades to come. By 1925, the Ford Motor Company was bringing over 100 Indian "service executives" a year for management courses in Detroit, before assigning them overseas. Most of the 100 Indians who received degrees at the Massachusetts Institute of Technology between 1882 and 1947 returned to India to use their engineering skills in Indian enterprises.

Indian immigrants also contributed to the U.S. economy while often maintaining ties back home. In the 1920s, Sakharam Ganesh Pandit became a successful attorney in California, arguing cases before the Supreme Court. In the 1930s, J.J. Singh became a prosperous importer of fabrics from India to New York and set up the U.S.-based Indian Chamber of Commerce. With the subsequent expansion of immigration to the United States, Indian immigrants came to play increasingly significant roles in a number of U.S. industries, including medicine, engineering, hospitality, and technology.

Whirlpool operates facilities in Pune, Puducherry, and Faridabad.

U.S. Consulate General Mumbai

Trade and investment expanded further after India gained independence in 1947, and then accelerated after India opened its economy in the 1990s. Examples are many. The medical device company Medtronic began operations in India in 1979, and by 2020 had more than 1,100 employees at research and development facilities in the country. Whirlpool entered India

U.S. Consulate General Mumbai

The John Deere tractor factory in Madhya Pradesh.

through a joint venture in the late 1980s, and after years of steady expansion became a market leader in home appliances. Today, Whirlpool produces advanced machines at facilities in Faridabad, Puducherry, and Pune. Farm equipment-maker John Deere similarly has increased its presence in India after entering the market in 1998.

The U.S. government has long supported India's economic growth. The role of the United States as one of India's leading development partners traces its roots to an initiative negotiated by U.S. Secretary of State Dean Acheson and Prime Minister Jawaharlal Nehru in the early 1950s. Under this program, the United States provided funds for wheat and support for economic development projects in India. In the following years, cooperation expanded to include education, energy, health, infrastructure, and other critical sectors. Today, the United States and India are looking beyond our borders and working together to promote development in Africa and Asia.

Recent Progress in U.S.-India Economic Relations

Economic ties expanded significantly after India began opening its markets in the early 1990s. In the last few years, bilateral trade and investment have broadened and deepened. This has occurred across both of our large economies and industries. Small-, medium-, and large-sized firms have all played important roles, as have countless individuals who took the lead in developing new products or services, made investment decisions, or just forged connections across the Indo-Pacific.

In the last two decades, bilateral trade in goods and services has surged from $20.7 billion in 2001 to over $146.1 billion in 2019. This makes the United States the largest trading partner of India, and India the ninth largest trading partner of

SECTOR SPOTLIGHT: PARTNERS IN THE DIGITAL REVOLUTION

The Information and Communications Technology (ICT) sector has been one of the great success stories of the U.S.-India economic relationship. Our combined efforts have made a significant impact on the economies and societies of both countries. In India, the over $160 billion industry makes up almost 8 percent of GDP and directly employs an estimated 3.7 million people. Virtually non-existent 30 years ago, the sector's growth has developed thanks to the talent and investments of both countries. Walmart is among the largest and most prominent firms to have made such an investment, most notably through its $16 billion purchase of Bengaluru-based Flipkart in 2018. The transaction represented the single largest foreign direct investment in India's history. Amazon has also made billion-dollar investments to deepen its Indian operations. Together, these two U.S. companies have invested over $23.7 billion into India's rapidly growing e-commerce industry. Utilizing their well-developed U.S. platforms, Indian small- and medium-sized enterprises have driven sharp export increases through both e-commerce companies, with Indian sellers crossing the $2 billion mark through Amazon's Global Selling program, and making use of the storage and transportation infrastructure provided by the companies' investments in the Indian marketplace.

E-commerce is not the only technology sector attracting U.S. investment and partnerships. Telecommunications, educational technology, financial technology, and other established companies have recognized India's position as a global digital power. Reliance Jio has recently received over $16 billion in investments from prominent U.S. companies, including Facebook, Google, Qualcomm, and Microsoft. Other U.S. firms have invested in Indian startups, such as

Courtesy microsoft.com

Darron Cummings © AP Images

Courtesy Wikipedia

$23.7 billion

Investment by Walmart and Amazon into India's e-commerce industry...

...with Indian sellers crossing

$2 billion

through Amazon's Global Selling program

BYJU's, Unacademy, Aakash, and Paytm.

Numerous Indian companies have also invested in the United States and assisted in the digital transformation there. Of the Indian companies in the United States, 27 percent are focused on the ICT industry, with Infosys, Wipro, Tata Consultancy Services, and HCL Technologies employing 30,000 people alone. These billion-dollar companies have kept their U.S. clients operating efficiently through software development, IT consulting, and personnel support, ensuring U.S. competitiveness in changing environments.

In addition, U.S. and Indian cooperation has been vital in mobile communications, ensuring that the sector is both dynamic and secure. India's three largest firms in this sector – Jio, Airtel, and Vodafone – have partnered with U.S. firms such as Altiostar, Cisco, and Mavenir to develop or deploy Open Virtualized Radio Access Network (Open vRAN) technology that is more secure and affordable than traditional proprietary standards. When these solutions are deployed – particularly across ultra-high-speed 5G networks – Indian carriers will be setting a global example in providing consumers, companies, and governments with digital connectivity that is free from the potential interference of untrusted third parties.

The U.S.-India ICT Working Group has agreed on shared principles to support this cooperation, providing a framework for security and growth. The Group has brought together a range of government and technical experts to draw on our common interests and shared democratic principles and to provide a joint vision for cyberspace. The U.S. Patent and Trademark Office recently assigned an Attaché to India to support research and innovation on these and other issues.

Courtesy Amazon

Above left: Reliance Industries Chairman and Managing Director Mukesh Ambani (left) and Microsoft CEO Satya Nadella.

Far left: Vice President Michael R. Pence at an Infosys economic development announcement in Indianapolis in April 2018.

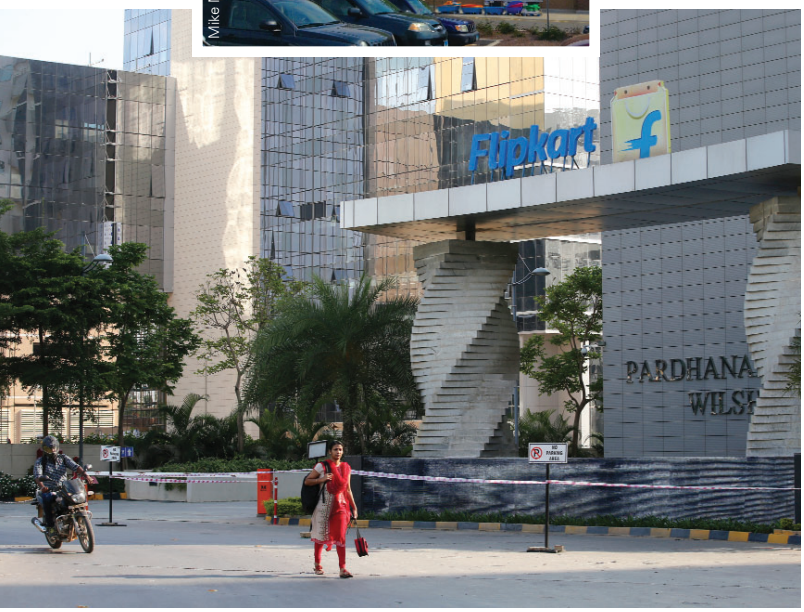
Left: Indian mobile communications firms, including Airtel, have partnered with U.S. firms to develop or deploy Open Virtualized Radio Access Network technology.

Above: In July 2020, Amazon India announced 10 new Fulfillment Centers in India.

the United States.

In 2019, two-way trade in goods amounted to $92 billion, while trade in services was worth $54.1 billion. In fact, approximately 16 percent of India's total exports now head to the United States. India's top exports to the United States have been precious metals and stones, pharmaceuticals, machinery, mineral fuels, and organic chemicals. The most valuable exports from the United States to India have similarly included precious metals and stones, mineral fuels, and organic chemicals, as well as aircraft and aircraft parts and machinery such as boilers and reactors.

Mike Mozart/Flickr

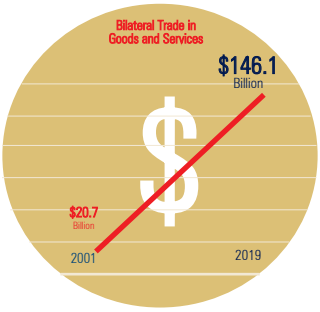


Aijaz Rahi © AP Images

Walmart's $16 billion acquisition of Flipkart in 2018 is the largest foreign direct investment in India's history.

Exports of goods and services from the United States have grown, providing advanced technology, wider consumer choice, and intermediate parts for production lines of Indian companies. These have helped bring India into global supply chains and boost the competitiveness of Indian firms.

A growth of remittances from Indians in the United States, totaling over $11.7 billion in 2017, has also strengthened India's economy. Even private U.S. citizens have boosted jobs and growth in India, as they have often been one of the largest groups of foreign tourists. In 2019, approximately 1.5 million Americans visited India.



Growing U.S. Investments in India

In recent years, many U.S. firms have made significant investments or expanded existing operations in India. U.S. companies have become India's largest source of foreign direct investment. According to the U.S. Bureau of Economic Analysis, cumulative foreign direct investment from the United States reached nearly $46 billion in 2019, though the actual amount is

significantly higher, as this figure reflects only investments coming directly from the United States and does not capture all forms of U.S. investments.

U.S. companies have made some of the biggest investments in India's history, such as Walmart's $16 billion acquisition of Flipkart in 2018 and the more than $16 billion of investments from various U.S. companies into Reliance Jio in 2020. Amazon's interest in India continues to grow steadily, with 2016 e-commerce investments totaling $5.5 billion and an additional $1 billion announced in January 2020. Amazon Web Services most recently announced a significant investment in the company's second data center in India. Mastercard is committed to building a vibrant digital payment ecosystem in India and has invested heavily – $1 billion between 2014-2019, and an additional $1 billion in the near future – toward expanding its capabilities and fostering innovation in India. In 2020, Mastercard committed $33 million to support small- and medium-sized enterprises. John Deere has steadily increased its investments in India, and now operates eight manufacturing and service facilities employing over 4,000 people. In 2020, Medtronic announced a $160 million expansion of its engineering and innovation center in Hyderabad – now its largest research and development center outside of the United States – with employees focused on modern procedures such as robot-assisted surgery. GE has greatly expanded its operations during its century of presence in India, including working on India's first nuclear power station, a joint U.S.-India gas turbine project, and the first public-private partnership in India's transportation sector. The latter – a $2.5 billion project – is providing 1,000 fuel-efficient diesel locomotives to Indian Railways.

@GEIndia/Twitter

U.S. Consulate General Mumbai

Top: GE's factory in Pune.
Above: Cummins' plant in Pune.

Numerous other U.S. companies are deeply embedded in the Indian economy, working with partners and suppliers across the country. Power generation company Cummins runs extensive operations in India, employing over 10,000 personnel in 21 facilities, many of which use green production techniques to minimize environmental impact. Boeing has steadily increased its connections with and operations in India over the last 75 years, and today works with over 200 Indian suppliers. The company has quadrupled sourcing from India in the last five years,

Paul Sancya © AP Images

including structural elements for the 787 Dreamliner aircraft. Boeing employs over 3,500 people directly in India, with more than 7,000 jobs supported through its Indian partners. Boeing also conducts research in collaboration with Indian universities, laboratories, and the Indian Ministry of Science and Technology.

Growing Indian Investments in the United States

An expanding number of Indian companies have similarly found the United States to be a welcoming destination for trade and investment. According to U.S. Department of Commerce SelectUSA data, by 2019 Indian investment in the United States totaled $16.7 billion, a 20 percent increase over 2018, and supported 67,000 jobs.

Tata Steel has a major office in Chicago and supports thousands of U.S. jobs in manufacturing steel products for dozens of industries. Aditya Birla Group metals company Hindalco has invested over $8.8 billion to purchase U.S.-based aluminum producers Novelis and Aleris. Mahindra is active in heavy industry, operating five U.S. assembly plants that make tractors and other machinery used by farmers across the United States. Dr. Reddy's Laboratories produces affordable generic drugs with state-of-the-art research and manufacturing facilities in Louisiana and New York. Bharat Forge announced a $170 million investment in an aluminum facility in North Carolina in 2019. Numerous other Indian companies, including Daxter Tools and Polyhose, have recently expanded operations in the United States.

U.S. imports of goods and services from India have also grown in recent years, reaching $87.4 billion in 2019. These include industrial supply and consumer goods, and services such as transportation and information and communications

Mahesh Kumar A. © AP Images

Left: Dr. Reddy's Laboratories produces affordable generic drugs with state-of-the-art research and manufacturing facilities in the United States.

Far left: The North American headquarters of the Mahindra Group's automotive branch.

The opening plenary of the U.S.-India Strategic and Commercial Dialogue in Washington, D.C. in September 2015.

State Department photo

> Bringing more Indians and more Americans together is good for our economies, good for our people, and great for our relationship.
>
> *—U.S. Secretary of Commerce Penny Pritzker, 2016*

technology. In addition, the number of Indian tourists and students has risen in recent years, contributing $16.4 billion to the U.S. economy in 2019 alone.

Government Engagement Promotes Economic Growth

The U.S. and Indian governments have expanded structured dialogues and high-level consultations to promote trade and investment. Our leaders have actively encouraged and supported the recent growth in trade. U.S. Presidents Barack Obama and Donald J. Trump both met with senior members of the business community during their respective visits to India, and Prime Minister Narendra Modi has met regularly with business leaders across the United States during his visits.

The U.S.-India Commercial Dialogue, led by the U.S. Secretary of Commerce and the Indian Minister of Commerce and Industry, was established in 2000 to increase trade and investment between our two nations. The expanded U.S.-India Strategic and Commercial Dialogue was held in 2015 and 2016, with the participation of the U.S. Secretary of State and the Indian Minister of External Affairs. The stand-alone Commercial Dialogue was held again in 2017 and 2019.

Other senior officials have engaged in regular dialogues on U.S.-India trade and investment. The U.S. Secretary of the Treasury and the Indian Minister of Finance chaired the U.S.-India Economic and Financial Partnership in 2015, 2016, and 2019. The U.S. Trade Representative and the Indian Minister of Commerce and Industry led meetings of the U.S.-India Trade Policy Forum in 2015, 2016, and 2017. In addition, the U.S and Indian governments convened meetings of the U.S.-India CEO Forum in 2015, 2016, 2019, and 2020 to exchange views with industry leaders on ways to improve economic

$16.7 billion
Cumulative Indian investment in the United States as of 2019,

creating more than
67,000
U.S. jobs

opportunities in each country. This Forum has generated recommendations to the U.S. and Indian governments on ways to increase trade and investment, including with regard to the Indian insolvency and bankruptcy legislation that was ultimately enacted in 2016.

Our two governments, including the respective ambassadors in New Delhi and Washington, D.C., have also convened industry-specific meetings and led trade delegations. In August 2018, U.S. Ambassador to India Kenneth I. Juster and Indian Minister for Railways and Coal Piyush Goyal convened a Railways Roundtable with 15 U.S. companies. This event enabled multiple parties to discuss and resolve market access issues, and helped U.S. firms better understand and navigate the requirements for bidding on Indian railway contracts. In May 2019, U.S. Secretary of Commerce Wilbur Ross brought a trade delegation of more than 130 small- and medium-sized enterprises from 32 U.S. states to India to explore commercial partnerships. After an initial conference in New Delhi, the companies' representatives traveled to Ahmedabad, Bengaluru, Chennai, Hyderabad, Kolkata, and Mumbai for one-on-one meetings with Indian business leaders and government officials.

U.S.-India dialogues on specific sectors have also helped advance government policy and commercial ties. In recent years, the U.S.-India Information and Communications Technology Working Group has agreed on shared principles to support cooperation on high-speed 5G networks, providing a framework for security and growth. In addition, the Group has brought together a range of government and technical experts to draw on our shared interests and democratic principles to provide a common vision for cyberspace.

Ambassador Kenneth I. Juster encouraged participation in the SelectUSA Summit at a luncheon with Indian business executives in April 2018.

U.S. Embassy New Delhi

U.S. Government Support for Indian Entrepreneurs and Regional Trade

The U.S. government has supported the development of small- and medium-sized companies in India, which are considered engines for growth, job creation, and innovation. In 2017, the United States and India co-hosted the Global Entrepreneurship Summit (GES) in Hyderabad. This event connected entrepreneurs with investors and international counterparts, with a particular focus on promoting access to capital by women entrepreneurs. The idea for a

PASSAGE TO PROSPERITY

The U.S. Agency for International Development (USAID) works to harness private sector investment and foster trade between India and Afghanistan. This trilateral collaboration seeks to strengthen economic and regional stability across a variety of sectors as part of the U.S. strategy for South Asia in support of Afghanistan.

Afghan companies produce high-quality products, but the companies lack knowledge of the demand from potential buyers and linkages with potential markets, including the Indian market. USAID is working with India to advance Afghanistan's economic integration within South Asia. Since 2017, USAID has hosted three annual trade shows, called Passage to Prosperity, with the governments of India and Afghanistan, which have resulted in an average of over $30 million each year in confirmed deals between Afghan and Indian companies, primarily in agriculture goods.

In 2019, approximately $33.6 million in contracts were signed, mostly in agriculture, and an additional $23.3 million in potential deals discussed. One of the highlights of 2019's Passage to Prosperity trade show was the women's business-to-business event, during which six memoranda of understanding were signed between Indian and Afghan women-owned companies. Women-owned companies signed 24 percent of the total deals concluded in the trade show.

Since 2017, the United States has sponsored three Passage to Prosperity trade shows with the Indian and Afghan governments.

Courtesy USAID

@P2PAfghanistan/Twitter

@P2PAfghanistan/Twitter

Women Entrepreneurship Platform (WEP), where women could exchange best practices on growing their companies, originated at this event. The WEP was formally launched on International Women's Day, March 8, 2018, in partnership with the Indian government think tank NITI Aayog.

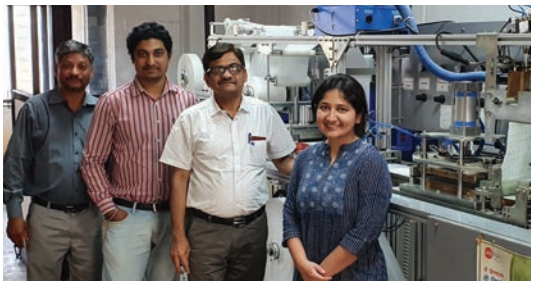
To further advance the goals of the GES, the U.S. Embassy subsequently awarded grants to foster digital skills among entrepreneurs, organized talks by experts on gender issues, and arranged mentorship and networking opportunities for women entrepreneurs. Indian women leaders also visited the United States as part of the U.S. Embassy's International Visitors Leadership Program.

The U.S. Embassy launched the Nexus Startup Hub at the American Center in New Delhi in 2017, which has helped Indian startups raise millions of dollars of investment capital, expand client lists, and create partnerships with domestic and international companies. The four U.S. Consulates have also encouraged entrepreneurship, and women entrepreneurs in particular, with programs across the country.

In the last few years, the U.S. Agency for International Development (USAID) has helped implement in India the White House-led Women's Global Development and Prosperity initiative, designed to advance women's economic empowerment, including supporting women in the workforce as entrepreneurs and leaders. For

State Department photo

State Department photo



Courtesy Saral Designs

Above: Ivanka Trump, Advisor to the U.S. President, inaugurated the Global Entrepreneurship Summit (GES) 2017 with Prime Minister Narendra Modi.

Top right: Ajaita Shah (center), founder and CEO of Rajasthan-based Frontier Markets, was the Grand Champion in the Global Innovation through Science and Technology Catalyst Pitch Competition at GES 2017.

Above: Suhani Mohan (right), co-founder of Saral Designs, and her employees received training at the Nexus Startup Hub at the American Center in New Delhi.

@GovMurphy/Twitter

Governor Phil Murphy of New Jersey (center) visited India in 2019 to promote business ties.

example, USAID has worked with PepsiCo to provide professional support to female potato farmers in West Bengal who are part of the Lay's potato chips supply chain. USAID has also worked with Tata Power to expand leadership opportunities for women in the energy sector.

The U.S. International Development Finance Corporation (DFC) has supported several large projects, including guaranteeing a $5 million initiative to help develop a women-owned agricultural company in Chennai and introduce advanced technology to improve farming yields. The DFC has also supported the 2X Women's Initiative, which spurred private sector funding for projects such as providing affordable home mortgages to 1,200 women in India.

The U.S. government has supported other projects to help connect India with its neighbors and boost regional trade. Since 2017, the United States has sponsored three Passage to Prosperity trade shows with the governments of India and Afghanistan. These have resulted in confirmed deals worth an average of over $30 million each year between Afghan and Indian companies, primarily in agricultural goods.

The Role of Sub-National Diplomacy in Powering Growth

Cities and states in both of our countries have helped drive the recent increase in trade and investment. A growing number of U.S. governors, mayors, and members of state assemblies have visited India to promote business ties. In fact, throughout 2019, the governors of the states of Arkansas, Colorado, Indiana, Kentucky, and New

2X WOMEN'S INITIATIVE

The U.S. International Development Finance Corporation's (DFC) 2X Women's Initiative is committed to addressing the unique challenges that women face globally and unlocking the multi trillion-dollar opportunity they represent.

Courtesy dfc.gov

For instance, financing of 350 million Indian Rupees is helping mortgage lender Aviom provide approximately 1,200 home loans to women in India. Aviom, which serves women borrowers in predominantly rural areas, provides loans in an average amount of $4,000. Many of the women served by Aviom work in the informal economy, have undocumented income, and would otherwise not be able to access home financing. Affordable mortgages enable women to build homes and establish a credit history. Women's economic empowerment is core to Aviom's mission and operations, advancing DFC's 2X Women's Initiative. In addition to helping close the gender credit gap, Aviom was founded by a female entrepreneur and is managed by a majority female board.

GOVERNMENT AND THE PRIVATE SECTOR WORK TOGETHER DURING THE COVID-19 PANDEMIC

Bilateral cooperation between the United States and India became even more vital during the global COVID-19 pandemic. Both the U.S. and Indian governments worked with airlines, airports, and other service providers to help repatriate their citizens. Almost 6,000 U.S. citizens and their family members boarded repatriation flights organized by the U.S. Embassy in conjunction with Indian authorities and private airlines, while the Indian government helped repatriate thousands of Indian citizens. The two governments also worked closely with private firms to ensure the flow of essential goods and services, including personal protective equipment, medicines, and other important items on cargo and special flights. In addition, we worked with the pharmaceutical industry and research institutions on COVID-19 treatment and vaccine research. USAID donated 200 high-quality ventilators to India, and funded a support package that includes warranties. USAID also worked in close coordination with the Indian government to enhance the capacity of health facilities using these ventilators, facilitating setup and clinical training for healthcare providers.

U.S. Embassy New Delhi

The U.S. government donated 200 state-of-the-art ventilators, through the U.S. Agency for International Development, to assist India in its fight against COVID-19.

Jersey visited India. Several Indian chief ministers have visited the United States, and others have set up a point person to deal with U.S. investment in their states.

Trade and Investment Offer a Future of Growth and Increased Prosperity

U.S.-India trade and investment have a long history of supporting growth in both countries and bringing us together. These ties have further intertwined our economies, our societies, and our families. Additional economic reforms and greater market access hold the potential for much more growth. As we look to the future, we see the possibility of greater economic integration and development across the Indo-Pacific.

ENERGY

The United States and India have a long history of energy cooperation, bringing together the best of our people, our industry, our non-governmental organizations, and our governments. These collaborative efforts across diverse forms of energy have powered economic growth and raised living standards. Progress in U.S.-India energy cooperation has boosted our economies and contributed benefits ranging from electrifying factories and powering the transport of agricultural products to improving the comfort and safety of our homes.

Our energy cooperation has drawn on the talents and creativity of our peoples, and on the bountiful resources of our lands. We have shared our innovation and our technologies with one another to produce and use energy in ways that brought opportunity to our nations. Our success has given both of our countries the energy security needed to reduce external pressure or dependencies, and to preserve the sovereignty we value so highly.

U.S.-India energy cooperation in sensitive areas such as nuclear energy has helped build trust between our countries and fundamentally strengthen the bilateral relationship. The

U.S. Secretary of Energy Dan Brouillette (center left) and Indian Minister of Petroleum and Natural Gas, and Steel Dharmendra Pradhan (center right) at the signing of an agreement to establish a virtual natural gas pipeline, in New Delhi in 2020.

Courtesy U.S. Department of Energy

successful conclusion of the 2008 U.S.-India Civil Nuclear Cooperation Agreement was also a key that unlocked many new forms of collaboration.

Today, our engagement in the field is extremely diverse, encompassing many sources of energy, private firms, government agencies, academic and research institutions, non-governmental organizations, and individuals. Many of the benefits of our cooperation on energy have spread across the globe as we share innovation, join together in commercial ventures, expand supply, lower prices, and help preserve our environment.

A Long History of Energy Partnership

For over a century, Americans and Indians have been collaborating on energy. The U.S. private and public sectors have been involved in some of India's most complex and ambitious energy projects. U.S. technology helped launch India's first major power plant in 1902, the 4.5-megawatt hydroelectric power station near Shivanasamudra, in Karnataka. This was followed years later by a nuclear power reactor (1969), an off-shore drilling platform (1976), a deep-water gas field (2006), the first utility-scale solar project (2009), and a grid-scale battery storage system (2019). Major power projects in India, such as the Tarapur Atomic Power Station and Himachal Pradesh's Beas hydropower project, benefited from U.S. support, and continue to generate power and contribute to growth today.

Individual Americans and Indians have also cooperated through technical exchanges, training, and knowledge-sharing. For example, Indian nuclear scientist Homi Bhabha was elected as an honorary member of the American Academy of Arts and Sciences in 1958. Cooperation has extended to academic institutions as well, including the Kanpur Indo-American Program, which paired U.S. and Indian universities to support energy-related academic programs across India.

Structured government cooperation on energy accelerated in the 21st century. A major step was the launch of the U.S.-India Energy Dialogue in 2005, which promoted U.S.-India trade and investment in energy.

The landmark 2008 U.S.-India Civil Nuclear Cooperation Agreement established a legal framework for civil nuclear cooperation. In reaching the Agreement, the United States successfully championed India's case to the Nuclear Suppliers Group (NSG), a group of nuclear supplying countries that contributes to nonproliferation through multilateral export controls, in order to secure for India a waiver to participate more deeply in global civil nuclear trade. The Agreement also expanded technical collaboration between the U.S. Department of Energy and the Indian Department of Atomic Energy, and enabled private-sector cooperation. The United States and India formed a Civil Nuclear Energy Working Group, which focused on

Indian Minister of External Affairs Pranab Mukherjee and U.S. Secretary of State Condoleezza Rice at the signing of the U.S.-India Civil Nuclear Cooperation Agreement in Washington, D.C. in 2008.

Manuel Balce Ceneta © AP Images

Right: USAID has helped develop solar rooftop programs in 10 Indian states.

Below right: USAID supports access to clean energy through micro-finance lending in India.

Courtesy USAID India

Courtesy USAID India

issues such as advanced steel for light water reactor applications and hybrid nuclear/solar driven-electricity.

Other bilateral initiatives broadened our cooperation on energy. For example, in 2009 the United States and India launched the Partnership to Advance Clean Energy (PACE). Its focus included energy projects to support research (PACE-R) and deployment (PACE-D). Under PACE-R, the U.S. Department of Energy supported research and development in three focus areas – solar energy, building efficiency, and second generation biofuels. PACE-R accelerated the development of solar electric technologies by reducing solar technology costs; integrated information technology into buildings to improve energy efficiency; and optimized development of advanced biofuel systems and bio-based products. Under PACE-D, the U.S. Agency for International Development (USAID) contributed to India's national Energy Conservation Building Code. USAID also helped 10 Indian states develop rooftop solar programs; unlocked billions of dollars in clean-energy financing through "Green Bonds," which are debt securities used to finance environmentally-clean projects; and expanded energy access for approximately two million Indians through micro-finance lending. Subsequently, in 2015, the U.S. Department of State and the Indian Ministry of New and Renewable Energy launched the PACESetter Fund to accelerate the commercialization of new clean energy technologies.

Progress Since 2017: A Strategic Energy Partnership

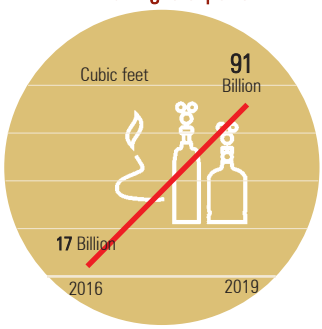
Energy ties have expanded in the last few years, through both private sector and government collaboration, blossoming into the U.S.-India Strategic Energy Partnership (SEP). The highest levels of the U.S. and Indian governments have supported energy cooperation, launching new initiatives and highlighting

Altaf Qadri © AP Images

Indian Minister for Petroleum and Natural Gas, and Steel Dharmendra Pradhan and U.S. Secretary of Energy Rick Perry at a press conference in New Delhi in 2018.

successes in joint statements after meetings between Prime Minister Narendra Modi and President Barack Obama, and between Prime Minister Modi and President Donald J. Trump.

In 2017, President Trump and Prime Minister Modi elevated the bilateral energy relationship with the announcement of the SEP. It was formally launched a year later by U.S. Secretary of Energy Rick Perry and Indian Minister for Petroleum and Natural Gas, and Steel Dharmendra Pradhan, and prioritized cooperation in oil and gas; power and energy efficiency; renewable energy; and sustainable growth. The SEP has expanded energy engagement through both government and industry channels. The first major activity launched under the SEP was the U.S.-India Gas Task Force. This Task Force convenes key stakeholders to identify opportunities for gas sector growth and market reforms that will accelerate the deployment of natural gas. In addition, the Task Force provides for public-private dialogues on trade and investment issues to support the Indian government's goal of increasing the share of natural gas to 15 percent of the primary energy mix by 2030.



The SEP Ministerial in 2020 reviewed progress at the two-year mark, led by U.S. Secretary of Energy Dan Brouillette and Minister Pradhan. Among the SEP Ministerial's achievements were new efforts on strategic petroleum reserves, a public-private Hydrogen Task Force, new PACE-R research on advanced coal technologies, and a commitment to incorporate gender-focused activities across technical cooperation, such as

the South Asia Women in Energy platform.

Recent progress in U.S.-India energy cooperation has also increased commercial ties between the countries. Today, there are over 100 U.S. companies of varying sizes with a presence in India that are connected to energy. These firms work across all elements of the sector, including power, oil, gas, petrochemicals, nuclear, renewables, biofuels, and energy-related goods and services. U.S. investors have also acquired stakes in India-registered and operated companies that are active in the domestic energy sector. Altogether, billions of dollars in investments have been made by U.S. entities across the Indian energy sector. At the same time, Indian firms have invested billions of dollars in the U.S. energy sector, including in shale oil and gas.

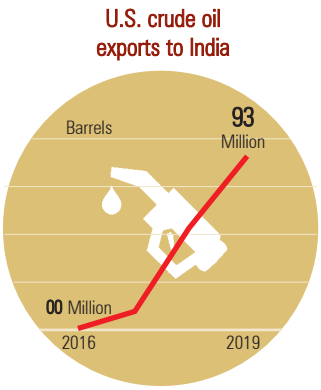
Increasing Government-led Energy Cooperation

In recent years, the U.S. and Indian governments have supported new initiatives, and expanded existing ones, to broaden energy collaboration. The U.S. Department of Commerce coordinated energy-related trade missions between the two countries to help U.S. firms explore opportunities in India in sectors such as smart grid energy storage and nuclear energy. The Commerce Department also helped Indian firms look for opportunities in the United States in fields such as natural gas.

ENERGY TRADE LEADS TO INVESTMENT

Open Systems International, Inc. (OSI), of Medina, Minnesota

OSI, a global leader in real-time electric grid management technology for utilities, has steadily expanded its trade and investment in India over the last decade. It has brought advanced U.S. technology and expertise to India's energy market, improving energy efficiency and boosting both of our economies. This American company first applied for Supervisory Control and Data Acquisition tenders in three Indian cities in 2010. It expanded its cooperation with Indian partners in 2012, thanks to an Infrastructure Trade Mission organized by the U.S. Department of Commerce. Over the years, OSI has grown further and successfully signed several deals in India. OSI's increased activities and partnerships have led the company to open a global engineering center in Bengaluru in 2019 to support research and deployment of OSI projects throughout India, Asia, and the Middle East.



POWERING GROWTH THROUGH LOWER EMISSIONS

CenPEEP

USAID worked with India's largest power utility, NTPC Limited, to create the Centre for Power Efficiency and Environmental Protection (CenPEEP). CenPEEP has subsequently run 355 demonstrations of improved coal use practices, such as non-destructive testing methods for critical components in coal-fired power plants, coal blending, and heat-rate improvement guidelines for coal power plants. Demonstrations at NTPC Limited facilities by CenPEEP introduced U.S. technology to India, such as new solutions for condenser cleaning in the power sector. CenPEEP's efforts, along with other USAID-supported work in the field, have helped India avoid 99.1 million tons of greenhouse gas emissions, and saved the use of 78.2 million tons of coal, worth $1.5 billion over 16 years.

TRADE LEADS TO SMARTER BUSINESS

Trilliant Networks, of Cary, North Carolina

Trilliant Networks has worked with an Indian partner to deploy smart power meters across India. The partners won a contract from Energy Efficiency Services Limited (EESL) for the rollout of smart meters across Haryana and Uttar Pradesh. Trilliant and its Indian partner have already deployed one million smart meters and are working to deploy four million additional units. The meters use U.S. technology to substantially reduce transmission and distribution losses, and improve revenue collection for Indian electric utilities and power distribution companies. As India moves forward with its planned deployment of 250 million meters nationwide, Trilliant will continue to partner with Indian companies, demonstrating how U.S. innovation can support India's economic transformation.

Feasibility studies and pilot projects supported by the U.S. Trade and Development Agency have helped Indian and U.S. companies involved in energy infrastructure and other work across the hydrocarbon and power sectors. These efforts support innovations such as "virtual gas pipelines," which involve alternative modalities for transporting natural gas to customers beyond the reach of existing pipelines. The U.S. Department of Commerce's SelectUSA office has connected Indian investors with opportunities in the United States and helped address questions about U.S. regulations and other issues.

In recent years, the PACE program has expanded to support our growing engagement on energy. The PACE-R Phase 2 program has expanded to collaborate with Indian counterparts on transformational power generation through advanced coal-fired power that allows more efficient power generation while reducing harmful emissions.

Today, the PACE-D 2.0 Renewable Energy program supports the deployment of

GTG-RISE by Deloitte for USAID

The Indian Central Electricity Regulatory Commission monitors real time markets.

Courtesy USAID India

The United States and India collaborate on renewable technologies, such as the use of electric vehicles.

renewable technologies by making them more affordable, more reliable, and complementary to India's energy security objectives. The PACE-D 2.0 Smart Power program supports power utility modernization across India.

Driving Growth

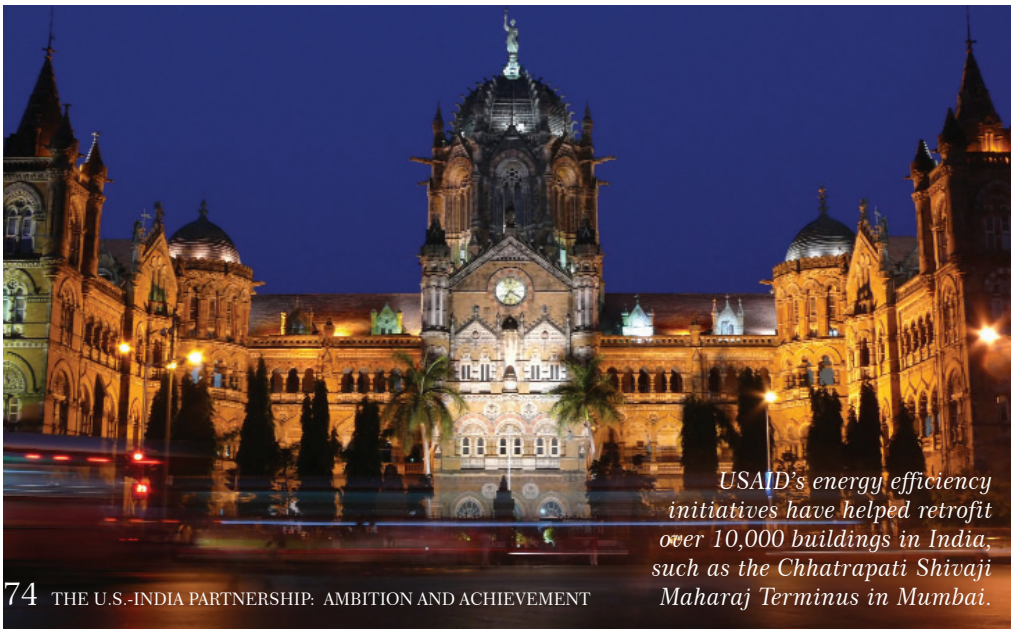
Promoting economic growth through energy sector reform has been an important part of our energy relationship. USAID has provided technical expertise to help analyze data, propose options, and support large-scale training for Indian experts in areas such as energy network management. USAID has also supported the Indian Central Electricity Regulatory Commission's (CERC) introduction of real time markets, or RTMs – an initiative to make energy markets more efficient.

Launched in June 2020, RTMs are a mechanism to ensure buyers and sellers can trade electricity from anywhere across the country on short notice, a critical step for a more efficient electricity network in India. USAID supported CERC's efforts to model market simulations, coordinate international knowledge exchanges, and create RTMs, which are now expected to bring better energy efficiency to almost 40 percent of the total power traded on India's exchanges.

As India's economy has continued to grow, the U.S. government has also collaborated with Indian partners to develop more energy efficient buildings. USAID's Market Integration and Transformation for Energy Efficiency initiative supplied analytical models, funded pilot technology projects, and shared global best practices with India's public and private sectors on energy efficient technology. This helped increase transparency and improve competition in bidding, resulting in more energy efficient buildings. The U.S. Department of Energy supported a related effort to develop a "Building Innovation" guide for achieving high-performance office buildings suited to the climatic, cultural, and construction context of India. The guide has subsequently been disseminated at the local, city, and state levels to policymakers, engineers, architects, and academics across India.

Looking to a Bright Future of Energy Partnership

The United States and India have a long and productive history of powering growth and development in both countries through energy cooperation. As in other fields of cooperation, we have benefited from a wide range of talented individuals, committed institutions, and innovative firms. As democracies, we have done so with the responsibility both to support our development and to protect our natural heritage.



Courtesy Mazur Travel

USAID's energy efficiency initiatives have helped retrofit over 10,000 buildings in India, such as the Chhatrapati Shivaji Maharaj Terminus in Mumbai.

Courtesy USAID India

CATALYZING ENERGY EFFICIENT BUILDINGS

Indian Green Building Council (IGBC)

The U.S. government has worked with Indian partners from government, private industry, and the non-profit sector to promote best practices in energy efficient buildings. The results have improved energy consumption in India and set an example for the world. For instance, the IGBC, the government of Andhra Pradesh, the Pirojsha Godrej Foundation, and USAID supported the development of the CII-Sohrabji Godrej Green Business Centre, the first LEED Platinum-rated green building in India. USAID and IGBC supported the Bureau of Energy Efficiency in developing India's Energy Conservation Building Code, which has been used across India. In 2018, IGBC and USAID launched the Net Zero Energy Buildings program to improve energy efficient construction in commercial buildings in India.

Courtesy USAID India

"We're forging ahead on research and development involving smart grids and energy storage to make our clean energy more reliable, and on carbon capture utilization and storage to make our reliable energy cleaner.

—U.S. Secretary of Energy Dan Brouillette, 2020

HEALTH AND BIOMEDICAL INNOVATION

Driving innovation to solve the health and biomedical challenges facing our citizens and those of other countries is one of the oldest and most successful areas of cooperation between the United States and India. This success reflects the best that our two countries can achieve together, and has improved the lives of millions of people in India, the United States, and around the world.

Our national governments, state and local authorities, civil societies, and private sectors have all played important roles in this partnership. Our joint achievements in health have benefited directly from the dynamic contributions of many segments of our societies, from academic and non-profit institutions to private individuals, charitable entities, and religious organizations. Together, the United States and India have been leaders in driving path-breaking research and innovation, and expanding the accessibility of quality health services to vulnerable populations.

Bilateral cooperation between the United States and India in health and biomedical innovation has had impressive results,

Courtesy Wikipedia

Courtesy Wikipedia

but it holds the promise of even better outcomes and further innovations in the years to come.

A Long History of Cooperation in Health, Led by a Range of Individuals and Institutions

Bilateral cooperation in health dates to well before India's independence. Gordon Hall, an American priest who had also studied medicine, set up the American Marathi Mission in Mumbai in 1813 to distribute medicine and health textbooks. Over the next 150 years, the American Marathi Mission assisted in the establishment of health institutions across India. In 1918, Dr. Ida Scudder, who grew up in India as a third-generation American medical worker, opened India's first medical school for women at the Christian Medical College Vellore – one of the first schools in India to accept female medical students. The institution remains one of India's finest to this day.

Americans have also long been exposed to and benefited from India in the areas of health and medicine. In the 19th century, Americans started importing Ayurveda medicines from India, and Indians began studying medicine in the United States. Two young women, Anandibai Joshee and Gurubai Karmarkar, helped blaze this path when they enrolled at the Woman's Medical College of Pennsylvania in the 19th century. In the 1920s, the Rockefeller Foundation began organizing workshops in India on communicable diseases and other aspects of

Courtesy Hannah Lider

Health and biomedical ties have expanded since Anandibai Joshee (left) and Gurubai Karmarkar (below left) traveled to the United States to study medicine and now form an important component of the U.S.-India Comprehensive Global Strategic Partnership. Exchanges of researchers and health professionals, including through the Fulbright-Nehru program (right), contribute to developments that benefit our two countries and the world.

Courtesy USAID India

CDC Global/Flickr

Left: USAID has partnered with the Indian government and civil society to improve the prevention and care for populations most at risk of HIV.

Below: U.S. and Indian partners helped expand the polio immunization program, which eventually led to India becoming polio-free in 2014.

public health, and in the 1930s helped establish the All India Institute of Hygiene and Public Health.

U.S.-India health cooperation expanded significantly after India's independence, focusing on some of the world's most pressing health challenges. Beginning in the 1960s, joint efforts in the public and private sectors, including by the U.S. Centers for Disease Control and Prevention (CDC), the U.S. Agency for International Development (USAID), and Indian and international partners, led to the eradication of smallpox in 1977. In the early stages of the HIV/AIDS epidemic in the 1980s, U.S. and Indian scientists, policymakers, and non-governmental organizations established new prevention and treatment protocols to combat the disease. In 1995, USAID and the Indian National AIDS Control Organization signed their first joint agreement to combat HIV/AIDS, a collaboration later formalized with USAID, CDC, and the U.S. Health Resources and Services Administration through the U.S. President's Emergency Plan for AIDS Relief (PEPFAR). Since 2005, the United States has committed nearly $360 million to support the Indian National AIDS Control Program under PEPFAR.

U.S. collaboration with Indian partners played an important role in the expansion of the polio immunization program in the early 1980s, which eventually led to India becoming polio-free in 2014, and subsequently maintaining its polio-free status. Starting in 2004, the CDC has supported India's Pandemic Influenza Preparedness and Response plan and worked to strengthen surveillance networks and response measures across India. USAID and the Indian Ministry of Health and Family Welfare have worked together for many years to better serve the urban poor, including by helping shape India's National Urban Health Mission in 2013. In

total, the United States has provided more than $1.4 billion to support India's health priorities during the last 20 years.

2015-2020: Expanding Health Diplomacy and Cooperation

In recent years, the United States and India have showcased during high-level government meetings their work together on health and biomedical innovation. Joint statements following the official visits to India of Presidents Barack Obama and Donald J. Trump, and Indian Prime Minister Narendra Modi to the United States, have all highlighted health cooperation, demonstrating the significance of this component of the bilateral relationship.

Echoing the vision set by our leaders, U.S. and Indian officials have strengthened the partnership across our governments, including through structured dialogues. In 2015, the United States and India held the first bilateral Health Dialogue, which addressed issues as diverse as infectious diseases, cancer, and mental health. In 2019, the Health Dialogue addressed six thematic areas of cooperation – research and innovation; health safety and security; communicable disease; non-communicable disease; health systems; and health policy – and facilitated the signing of several agreements.

The U.S. government has bolstered this health diplomacy with exchanges of scientists and health professionals. Since 2016, the CDC has brought Indian public health practitioners

> Our partnership in health is of significance not only to our two countries, but to the world.
>
> *—Secretary of Health and Human Services Alex M. Azar II, 2019*

The U.S.-India Health Dialogue in Washington, D.C. in 2019.

Courtesy U.S. Department of Health and Human Services

Monica Tiwari/International Vaccine Access Center

BUILDING ON U.S.-INDIA SUCCESS AGAINST THE ROTAVIRUS WITH NEW VACCINE RESEARCH

Effective vaccines are one of the most potent tools in the fight against infectious diseases. In March 2015, Prime Minister Narendra Modi launched the ROTAVAC vaccine to protect children from the most common strain of rotavirus, one of the main causes of mortality in children under five years of age. ROTAVAC was the first vaccine fully developed, manufactured, and deployed in India. This historic launch represented the culmination of almost 30 years of collaborative work under the U.S.-India Vaccine Action Program, established in 1987 by the National Institute of Allergy and Infectious Diseases/National Institutes of Health, India's Department of Biotechnology, and the Indian Council of Medical Research. Following this success, the United States and India are working through the Vaccine Action Program on tuberculosis, dengue, respiratory syncytial virus SARS-CoV-2 (the virus responsible for COVID-19), and other globally-important pathogens.

to the United States to participate in the Public Health Emergency Management Fellowship. The U.S. National Cancer Institute brings Indian cancer scientists, researchers, and experts to the United States to work alongside its scientists. In 2020, the U.S. National Institute of Allergy and Infectious Diseases (NIAID), in partnership with the Bill & Melinda Gates Foundation, signed an agreement with the Indian Council of Medical Research to establish a clinical research fellowship program for early career Indian and U.S. scientists focused on infectious diseases and immunology. And U.S. Embassy New Delhi has enabled dozens of Indian public health experts to travel to the United States to work on pandemic preparedness, environmental health, biomedical innovation, and other issues through the International Visitor Leadership Program.

Government-Supported Research Drives Innovation and Progress in Health

The U.S. government's support for research on health in India has contributed to significant innovation and progress, complementing the non-profit and private sector health cooperation between our countries. For decades, the U.S. National Institutes of Health (NIH) have supported research in India on a range of issues, including communicable and non-communicable diseases, environmental health, the development of vaccines and therapeutics, and complementary and integrative medicines such as yoga.

In the past five years, that support, especially for biomedical research, has increased significantly. The number of unique projects funded by NIH grew from

Courtesy CSCMI team

American and Indian healthcare professionals and academics have worked together at the Center for the Study of Complex Malaria in India, with funding provided by the U.S. National Institutes of Health.

facebook.com/ProjPrakash/

GIVING SIGHT TO BLIND CHILDREN, WHILE CONTRIBUTING TO GLOBAL KNOWLEDGE

In many scientific endeavors, direct societal benefits come long after the research has been completed. However, in some instances, the process of conducting research directly improves people's lives. Project Prakash ("Light"), funded by the U.S. National Eye Institute (NEI)/NIH, is one such example. The project has used a combination of behavioral neuroimaging and computational studies to yield important clues about brain mechanisms of learning and plasticity, while simultaneously bringing sight to blind children. Over 42,000 children have received surgical treatment, non-surgical care, and ophthalmic screening through the project. Project Prakash illustrates the power and promise of U.S.-India collaboration and the benefits that can emerge when clinicians, social workers, and scientists work together.

American and Indian researchers at the National Institute of Malaria Research in Odisha.

Courtesy CSCMI team

116 in 2015 to 176 in 2019. Similarly, the number of collaborations grew from 197 to 314, and the number of Indian research organizations participating in NIH-funded research grew from 108 to 186. NIAID has also supported research on infectious diseases such as HIV/AIDS, tuberculosis, malaria, and antimicrobial-resistant pathogens.

As attention to mental health issues has grown around the world, U.S. and Indian researchers have been at the forefront. The U.S. National Institute of Mental Health, in collaboration with Sangath, one of India's leading mental health organizations, funded a program on the prevention and treatment of depression. Results from their joint efforts have influenced national and global mental health policy, and will improve access to psychological treatments for depression not only in India, but also in the United States. In addition, USAID is addressing the

effects of mental health issues in India. In collaboration with the Harvard Medical School, USAID is working with youth to address the mental health problems resulting from the COVID-19 pandemic.

Courtesy USAID India

Courtesy Rattapallax

Top: USAID trained community and frontline workers to combat COVID-19 in India.

Above: U.S. Embassy outreach efforts, such as the Priya's Mask *comic book, have helped increase awareness about the prevention of COVID-19.*

Building Pandemic Preparedness Strengthened COVID-19 Responses

The United States has worked closely with India to strengthen public health systems in order to prevent, detect, and respond to infectious disease outbreaks. Over the past five years, the U.S. government has invested approximately $33 million in India to advance the Global Health Security Agenda, a global effort to strengthen the world's ability to assess and combat threats caused by infectious diseases.

Key activities have included strengthening laboratory capacity and real-time disease surveillance, which has helped India adopt a national policy to better diagnose and treat Acute Febrile Illness and Acute Encephalitis Syndrome. U.S. officials have also helped India pilot its first integrated district public health lab in the state of Chhattisgarh. This approach was adopted by the Indian government in 2020, which now plans to implement it across the country.

Since 2015, the CDC has strengthened India's public health workforce through the Field Epidemiology Training Program, including support for the India Epidemic Intelligence Service Program, Public Health Emergency Management Fellowships, and the Rapid Response Team. This expanded surveillance and frontline capacity helped detect and respond to outbreaks of the Nipah virus in Southern India in 2018, and hypoglycemic encephalopathy in Northern India in 2019.

This history of successful cooperation shaped our joint response to the COVID-19 pandemic. From the onset of the pandemic, CDC public health scientists

Michael L. Cavey

facebook.com/USAIDIndia

Through USAID, the U.S. government donated 200 state-of-the-art ventilators to assist India's response to the global COVID-19 pandemic.

supported India's COVID-19 field response, assisting with technical guidance, contact tracing, diagnostic testing, and infection prevention control practices at health facilities. Hundreds of graduates of CDC trainings have been at the forefront of India's response, providing on-the-ground expertise across the country.

USAID has assisted India's COVID-19 response by providing support to affected people and communities, disseminating public health messages, and financing emergency preparedness and pandemic response. As of November 30, 2020, USAID had helped train more than 46,700 health workers and 79,000 front-line COVID-19 workers, supported 961 healthcare facilities, and worked with the private sector to improve digital health solutions.

In addition, through USAID, the U.S. government donated 200 state-of-the-art, U.S.-manufactured ventilators to 29 facilities, and provided $5 million to support small- and medium-sized enterprises in the areas hit hardest by the pandemic. As of the final months of 2020, the United States had dedicated over $26.6 million in new funding to support India's response to the pandemic.

U.S. and Indian scientists have collaborated in both the public and the private sectors to jointly develop and test vaccines, diagnostics, and treatments for COVID-19. NIAID is working on countermeasures for COVID-19 through its partnerships in India, including with the U.S.-India Vaccine Action Program. The U.S. Food and Drug Administration and the Indian government have worked together to ensure the safety and efficacy of medical products and to prevent the marketing of unapproved products that fraudulently claim to fight or cure COVID-19.

By fall 2020, several Indian companies had joined U.S. companies and

universities to explore the large-scale manufacturing of affordable solutions to the COVID-19 pandemic. These U.S.-India partnerships performed clinical testing and assessments of promising COVID-19 vaccine candidates, including the potential for widespread manufacturing of a vaccine. A number of Indian companies signed licensing agreements with the U.S.-based firm Gilead to manufacture Remdesivir, a potential treatment for COVID-19, for distribution to 127 countries. Such collaboration helps ensure access to safe and effective drugs in low- and middle-income countries throughout the world.

U.S.-India Leadership Tackles the Global Threat of Antimicrobial Resistance

In recent years, the United States and India have increased cooperation on a new threat to global health, antimicrobial resistance (AMR), which occurs when microbes develop immunity to the drugs designed to kill them. Today, U.S. and Indian scientists are studying the pathogens needed to develop medical countermeasures against this threat. U.S. Ambassador Kenneth I. Juster has highlighted the danger of AMR in various fora, including in his 2019 remarks at the inauguration of India's national AMR Hub in Kolkata, in meetings with Indian policymakers and AMR innovators, and through an op-ed in the Indian press.

PROTECTING NEWBORNS FROM ANTIBIOTIC-RESISTANT INFECTIONS

Each year, nearly 60,000 babies in India die from sepsis related to antibiotic-resistant infections. The U.S. Centers for Disease Control and Prevention (CDC) has been sharing its expertise in infection prevention and control with Indian partners through the Antibiotic Resistance Solutions Initiative. This program seeks to identify the sources of outbreaks in four neonatal intensive care units and then uses innovative, cost-effective interventions to prevent the spread of antibiotic-resistant pathogens and ultimately save the lives of young children.

@usaid_india/Twitter

In line with India's National Action Plan on AMR, U.S. and Indian experts have supported the development of state action plans to combat AMR in New Delhi, Madhya Pradesh, and Kerala. The United States has also helped build and support surveillance systems for resistant infections, and develop India's National Guidelines for Infection Prevention and Control in Healthcare Facilities, which were launched in January 2020.

In cooperation with the private sector, the United States helped fund the Combating Antibiotic-Resistant Bacteria Biopharmaceutical Accelerator (CARB-X), a public-private partnership to incentivize the development of new anti-bacterial cures. In 2019, CARB-X and the Indian Department of Biotechnology signed a Memorandum of Understanding to collaborate on new product development.

Increasing Collaboration on Communicable and Non-Communicable Diseases

During the last five years, the United States and India have strengthened cooperation to combat communicable and non-communicable diseases, with a particular focus on tuberculosis (TB). Because successfully combating TB is a global challenge, USAID and the CDC, in cooperation with the private sector and the Global Fund to Fight AIDS, Tuberculosis and Malaria, have supported India's national and local TB elimination programs. Together, the United States and India have cooperated to strengthen multi-drug resistant TB programs, build TB surveillance and diagnostic capabilities, and introduce new TB drugs and treatment regimens.

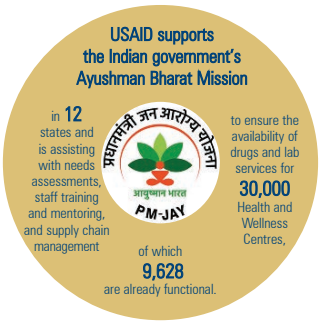
USAID Administrator Mark Green met TB survivors during his trip to Hyderabad in 2017.

Joint efforts to support TB research have been central to our search for innovative solutions to the disease. For example, in 2015, funding from NIAID helped establish the Regional Prospective Observational Research for Tuberculosis (RePORT India) consortium. This network of organizations designs and executes clinical research to better understand the TB burden in India, and studies vaccines and therapeutics that could affect TB incidence and prevalence. The success of RePORT India led to its expansion into an International RePORT Consortium that now links scientists and research in Indonesia, the Philippines, China, South Africa, and Brazil.

The United States and India have also addressed jointly a range of non-communicable diseases. The U.S. National Cancer Institute (NCI) has supported

research in India on tobacco control, proteogenomics (the study of proteomic information to improve gene annotation), and affordable technologies for treatment. In addition, U.S. and Indian researchers worked together to support the 2019 opening of the All India Institute of Medical Sciences (AIIMS)-NCI campus in Jhajjar, Haryana, which focuses on cancer research and providing cancer care at affordable rates.

The U.S. National Institute of Diabetes and Digestive and Kidney Diseases, and the National Heart, Lung, and Blood Institute have supported research on diabetes and cardiovascular disease through Indian centers of excellence. These have included the Madras Diabetes Research Foundation in Chennai, St. John's Research Institute in Bengaluru, and the Public Health Foundation of India in New Delhi. The centers have led initiatives to control hypertension, address tobacco-related diseases, promote screening of non-communicable diseases, and advocate healthy diets in schools.



Helping People through Improved Health Policy and Systems

As leaders in health innovation, the United States and India have worked on policies to raise national and global health standards. For example, health experts from both countries have collaborated on bilateral and global issues related to digital health.

The United States and India supported the Global Digital Health Partnership, a collaboration of governments, multinational organizations, and civil society organizations to advance digital health interoperability, international data standards, and data stewardship. Through these arrangements, U.S.-India efforts to increase the availability of health data are leading to better care for patients.

USAID has supported the TRACE-TB program (Transformative Research and Artificial Intelligence Capacity for Elimination of TB and Responding to Infectious Diseases), which uses patient data from across India to define disease patterns and suggest solutions. The CDC and AIIMS developed a digital reporting portal that allows tertiary care facilities across India to monitor trends of healthcare-associated infections in order to improve patient care standards.

Courtesy Digital Green

USAID-funded programs, such as Project Samvad, communicate good health and nutrition practices through videos and other digital tools.

Chris Landsberger © AP Images/The Oklahoman

Evan Vucci © AP Images

Above: Vivek Murthy served as Surgeon General of the United States, from 2014 to 2017, the first Indian American to hold the position.
Above right: Seema Verma served as the Administrator of the Centers for Medicare & Medicaid Services from 2017 to 2021.

USAID also contributed to the 2018 rollout of Ayushman Bharat, the Indian government's national initiative to provide free or affordable healthcare to Indian citizens. This partnership helped train over 24,000 community health officers to support the Indian government's goal of establishing Health and Wellness Centres across the country.

Growing Contributions to Health from Individuals and Public-Private Partnerships

As two large and diverse democracies, the United States and India have thriving private and non-profit sectors engaged in health and biomedicine that boost innovation, knowledge, and access to quality healthcare. As the connections between our countries have grown, so has collaboration among our doctors, researchers, academics, foundations, healthcare facilities, and private firms.

In the United States, doctors and healthcare professionals of Indian origin have played a particularly prominent role. People of Indian-origin are estimated to comprise 10 to 20 percent of all doctors in the United States. Approximately 40,000 medical students, residents, and fellows at U.S. universities and hospitals are from India, the largest contingent from any one country. The American Association of Physicians of Indian Origin estimates that physicians of Indian-origin service about 30 percent of U.S. patients and provide care for one out of seven people in the United States on a given day.

Increasing numbers of Indian Americans have served in leadership roles in public health in the United States. In 2014, Vivek Murthy became the first Indian

American to serve as Surgeon General of the United States, while Seema Verma became the Administrator of the Centers for Medicare & Medicaid Services in the U.S. Department of Health and Human Services in 2017.

The growth of India's healthcare sector, including the pharmaceutical industry, has also contributed to increasing connections between U.S. and Indian companies. More and more Indian healthcare facilities are using equipment designed or manufactured in the United States, while an increasing number of U.S. citizens are consuming medicines developed or produced in India. According to the FDA, India was the second largest supplier of drugs and medicinal products to the United States in fiscal year 2019 (October 1, 2018 to September 30, 2019).

The U.S. and Indian governments have sought to leverage this vast pool of talent and resources through public-private partnerships. The Millennium Alliance, a partnership between USAID and the Federation of Indian Chambers of Commerce and Industry, has provided seed funding to companies to support the development of low-cost diagnostics and devices for maternal and child health. In 2019, USAID and the Indian Ministry of Health and Family Welfare jointly

Courtesy Coeo Labs

The Millennium Alliance has provided funds to organizations such as Coeo Labs (above) and Aindra Systems (below) to develop innovative biomedical technologies.

Courtesy Adarsh Natarajan/© Getty Images

KEEPING KUMBH MELA CELEBRANTS SAFE AND HEALTHY

Rajesh Kumar Singh © AP Images

The Kumbh Mela festival, the world's largest religious gathering, is a time for celebration, but could also present public health concerns. To prevent disease outbreaks and other threats to public safety, CDC worked with the state of Uttar Pradesh and the Indian government to conduct real-time disease surveillance and response during the 2019 festival in Prayagraj. Joint activities included conducting workshops to build local disease surveillance and laboratory capacity; supplying rapid, point-of-care test kits to increase the state's ability to test for cholera; and establishing a field Emergency Operations Center. After the successful event, CDC and its Indian partners held an after-action review workshop to inform planning for future Kumbh Melas and ensure that celebrations can continue to be held safely.

The CDC leads a laboratory training session to prepare healthcare professionals for the Kumbh Mela.

Indranil Roy

Ambassador Kenneth I. Juster launched an initiative to bring Indian corporations into the fight to end TB, in April 2019.

U.S. Embassy New Delhi

launched "The Corporate TB Pledge" for the elimination of TB in India, and have subsequently received pledges from more than 100 U.S. and Indian corporations. And USAID has partnered with the National Health Authority to mobilize over $146 million of loans and grants from the State Bank of India and IndusInd Bank, and the Ford, Rockefeller, and Bill & Melinda Gates Foundations to support high-impact solutions for strengthened health systems.

In addition to efforts by our governments, U.S. companies have played an active role in India's healthcare through innovative financing and corporate social responsibility programs. For example, in 2018, Pfizer and the Indian Institute of Technology Delhi created an incubation accelerator initiative to provide funding and mentoring support for healthcare innovators. Johnson & Johnson Private Limited signed a memorandum of understanding with the Maharashtra state government to address pressing public health issues such as tuberculosis, maternal and child health, and infection prevention.

A Partnership Promising Healthy and Productive Futures

The long history of cooperation between the United States and India in health and biomedicine, which has driven research and innovation, has been both successful and broad-based. It has drawn on the best of the rich human capital and diverse institutions of our two countries. And it has led to longer and healthier lives for our citizens, and those of the world. Together, we are optimistic that we will be able to address the world's new health challenges in the years to come, and to ensure that our nations are able to thrive in good health.

SCIENCE, TECHNOLOGY, ENVIRONMENT, AND SPACE

The United States and India have long shared a commitment to using science to understand the world and to better the lives of our citizens. This dedication has been supported by our two governments; non-profit institutions such as universities, civil society, and foundations; private companies; and countless individuals in both countries. It has been built on a history of exploration and achievement by our peoples, in the case of India stretching back thousands of years. Our cooperation has drawn on a passion to protect our lands, mountains, air, rivers, and wildlife, which hold sacred meaning for many; and our natural resources, when used responsibly, can both power our development and preserve natural habitats.

As our bilateral relationship has grown, so have our joint achievements in science, technology, environment, and space. Our leadership in these fields has helped advance knowledge for the global good. This leadership has been particularly visible in our cooperation on the shared waters of the Indo-Pacific, on global climate issues, and in space. Our collaboration has driven economic growth and improved the health of our people. The importance of our shared leadership will only grow in the coming decades as we work together to address opportunities such as artificial intelligence and space exploration, and challenges such as ensuring clean air, providing access to clean water, and protecting wildlife.

A History of Science and Environmental Cooperation

U.S.-India cooperation on science, technology, and the environment can be traced back to our earliest interactions in the 18th century, when merchants traveled across our shared seas to trade the fruits of our respective natural resources, agricultural practices, and knowledge of textile production. Some of the earliest Indian immigrants to the United States were sailors and dock workers who settled in Massachusetts to apply their skills laboring in the state's harbors. In 1851, a group of Indians marched in the 4th of July parade in Salem, Massachusetts, carrying a banner for the East India Marine Society. These and other Indians represented the deep appreciation of science and discovery in Indian civilization, expounded by the pundit Jabali in the *Ramayana*, the 5th century CE mathematician Aryabhata, and the 6th century CE astronomer Varahamihira.

In the late 19th and early 20th centuries, Indians began arriving at U.S. universities to study science. In 1882, Keshav Malhar Bhat traveled from Pune to attend courses at the Massachusetts Institute of Technology (MIT). A number of Indian students studying science in the United States were encouraged by Mahatma Gandhi and his associates, who helped edit letters to Indian industrialists seeking financial support for their studies. Gobind Behari Lal, who later became a Pulitzer Prize-winning science editor of *The San Francisco Examiner*, studied at the University of California, Berkeley, in 1912. Yellapragada Subbarow became a noted biochemist at Harvard Medical School after his arrival in 1923.

Meanwhile, private American groups, such as the American Marathi Mission, were teaching natural sciences at schools in western India. The Rockefeller Foundation began work in India in 1916, sponsoring a chair in protozoology at the School of Tropical Medicine in Kolkata, and supported projects in science, medicine, and agriculture over the following decades.

Science cooperation expanded after India's independence in 1947. Space was an important field of early cooperation. In 1963, an eight-person team of Indian space engineers – including future Indian President A.P.J. Abdul Kalam – received training at NASA facilities in Virginia and Maryland, including at the Wallops Flight Facility. That same year, India launched its first rocket, a NASA-provided Nike-Apache rocket,

India's first rocket, a NASA-provided Nike-Apache rocket, launched in 1963.

Courtesy obamawhitehouse.archives.gov

The U.S.-India Joint Commission Meeting on Science and Technology Cooperation in June 2010.

setting the course for India's own space achievements.

Non-governmental cooperation in science also grew in the second half of the 20th century. Many American foundations, companies, and universities began operations in India or established relationships with Indian counterparts to cooperate in science, technology, and engineering. Indians who returned from study or work in the United States often made significant contributions. These included S.L. Kirloskar, who studied engineering at MIT and set up the Kirloskar Electric Company Ltd. in Bengaluru and the Kirloskar Oil Engines Ltd. in Pune.

Many Indian immigrants to the United States became leaders in science, engineering, or related fields. For example, Rakesh Gangwal drew on his engineering background to become the CEO of US Airways in 1998, before returning to India to co-found the airline IndiGo. Haryana-born Kalpana Chawla became a NASA astronaut and first traveled to space in 1997. Sunita Williams, whose father's family comes from Gujarat, also joined the ranks of NASA astronauts. In the 1990s and 2000s, many Indian software engineers contributed to the growth of the information technology industry in the United States.

U.S.-India government cooperation also deepened, including through a $110 million fund to promote science and technology collaboration, formed in 1987. This became the Indo-U.S. Science and Technology Forum in 2000. In 2005, U.S. Secretary of State Condoleezza Rice and Indian Minister of State for Science and Technology Kapil Sibal signed an umbrella Science and Technology Cooperation Agreement to increase collaboration in basic science, space, and other fields.

In 2005, the U.S.-India Joint Working Group on Civil Space Cooperation was founded. In 2008, the Indian Space Research Organisation's (ISRO) *Chandrayaan*-1 mission carried two NASA payloads, which helped identify water molecules on the moon. In 2010, the United States and India held the first meetings of the U.S.-India Agriculture Dialogue and the Joint Commission Meeting on Science and Technology Cooperation. This was co-chaired by the Director of the White House Office of Science and Technology Policy, John Holdren, and Indian Minister of State for Science and Technology, and Earth Sciences Prithviraj Chavan.

2015-2020: High-Level Support Increased Science and Technology Cooperation

Cooperation in science, technology, and the environment has strengthened further in the last few years, including with support from our leaders. President Barack Obama discussed joint efforts to advance cooperation in science and technology, including on climate change and scientific exchanges, with Prime Minister Narendra Modi during his January 2015 visit to India. In September 2015, Prime Minister Modi visited Silicon Valley in California, including the premises of Google, Tesla, and Facebook. In the United States, the Prime Minister discussed his Digital India initiative and a wide range of potential private sector technology collaboration opportunities with India. During Prime Minister Modi's June 2016 visit to the United States, he and President Obama welcomed the formation of a U.S.-India Joint Oversight Group to support the building of a Laser Interferometer Gravitational-Wave Observatory in India. In addition, President Obama and Prime Minister Modi welcomed India's participation in the Our Ocean Conference in Washington, D.C.

In June 2017, President Donald J. Trump and Prime Minister Modi discussed how the two countries, as global partners, could "further strengthen their collaboration in health, space, oceans, and other areas of science and technology." In September 2019, President Trump and Prime Minister Modi participated in a public event in Houston, Texas, where the Prime Minister

> The United States and India are committed to an open, reliable, and secure Internet that facilitates trade and communication. The United States and India recognize the need for an innovative digital ecosystem that is secure and reliable and that facilitates the flow of information and data.
>
> *—Joint Statement: Vision and Principles for the United States-India Comprehensive Global Strategic Partnership, 2020*

Prime Minister Narendra Modi met with Google CEO Sundar Pichai during a visit to California in 2015.

Marcio Jose Sanchez © AP Images

also met with U.S. companies focused on energy, chemicals, and engineering. During President Trump's February 2020 visit to India, he and Prime Minister Modi again discussed science and technology, and welcomed bilateral progress on Earth observation, Mars exploration, and heliophysics.

Structured bilateral dialogues on science, the environment, technology, and related topics have provided direction and resources to our expanding cooperation. In 2016 alone, the United States and India held a session of the Joint Working Group on Combating Climate Change, a Plant Health Bilateral Meeting, a session of the Joint Committee Meeting on Science and Technology Cooperation, and an Animal Health Bilateral Meeting. We also created new mechanisms, such as the U.S.-India Agricultural Outlook Forum (which was established in 2017 to discuss agricultural policy and the use of technology in farming) and the U.S.-India Ocean Dialogue. The Ocean Dialogue was inaugurated in 2017 at the Council of Scientific and Industrial Research - National Institute of Oceanography (CSIR-NIO) in Goa, to discuss sustainable use of ocean resources for economic growth, while preserving the health of the world's oceans.

We congratulate the Indian Space Research Organisation for its successful arrival at Mars with the Mars Orbiter Mission. It was an impressive engineering feat, and we welcome India to the family of nations studying another facet of the Red Planet.

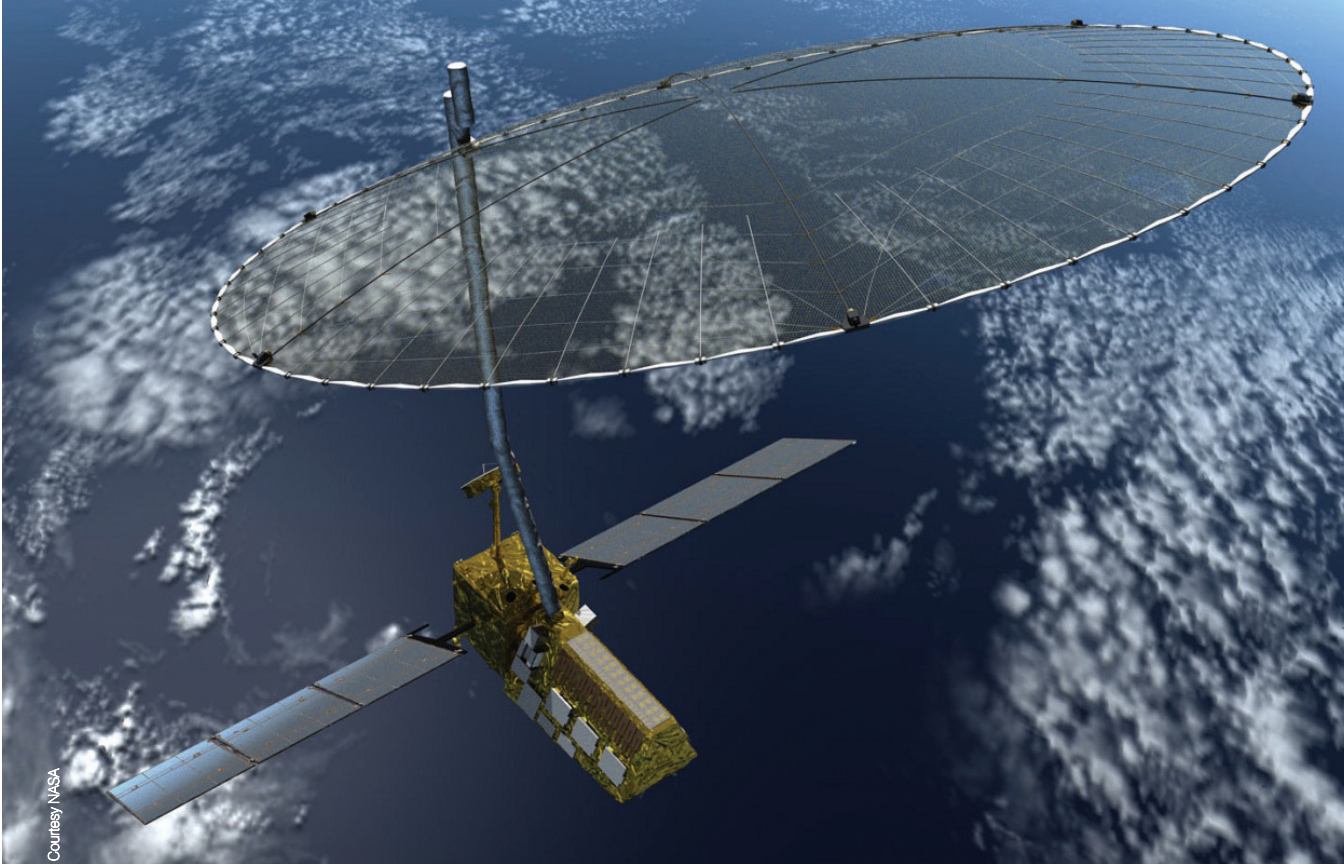
—NASA Administrator Charles Bolden, 2014

Exploring Space Together, for the Benefit of Humanity

In recent years, space has been one of the most successful areas of our cooperation, ranging from developing advanced

Courtesy Brown University

ISRO scientists at NASA's Jet Propulsion Laboratory in California.



The NASA-ISRO Synthetic Aperture Radar (artist's concept) is expected to be launched in 2022.

satellites for deep-space exploration to increasing private sector space collaboration. Our governments have held productive dialogues on space issues, including meetings of the U.S.-India Civil Space Joint Working Group in 2015 and 2019. We expanded our cooperation to cover emerging security issues in space by launching a new U.S.-India Space Security Dialogue in 2015, and held further rounds in 2016 and 2019.

A prominent example of U.S.-India space cooperation, and the promise it holds for the world, is the joint NASA-ISRO Synthetic Aperture Radar (NISAR). This $1.5 billion, cutting-edge earth observation satellite will improve the ability of scientists to measure and understand some of the planet's most complex processes. ISRO is providing the S-band radar and NASA's Jet Propulsion Laboratory (JPL) is providing the L-band radar. The payload will be assembled in the United States before it is shipped to India for an expected launch by ISRO in 2022. JPL has also provided communications support through its Deep Space Network for both of ISRO's *Chandrayaan* moon missions and for India's *Mars Orbiter Mission*, otherwise known as *Mangalyaan*. In addition, the U.S. National Oceanic and Atmospheric Administration and U.S. Geological Survey have collaborated with ISRO on data sharing related to global weather and land resources, respectively.

The U.S. commercial space industry is increasingly cooperating with India,

ENSURING EQUAL OPPORTUNITY IN SCIENCE

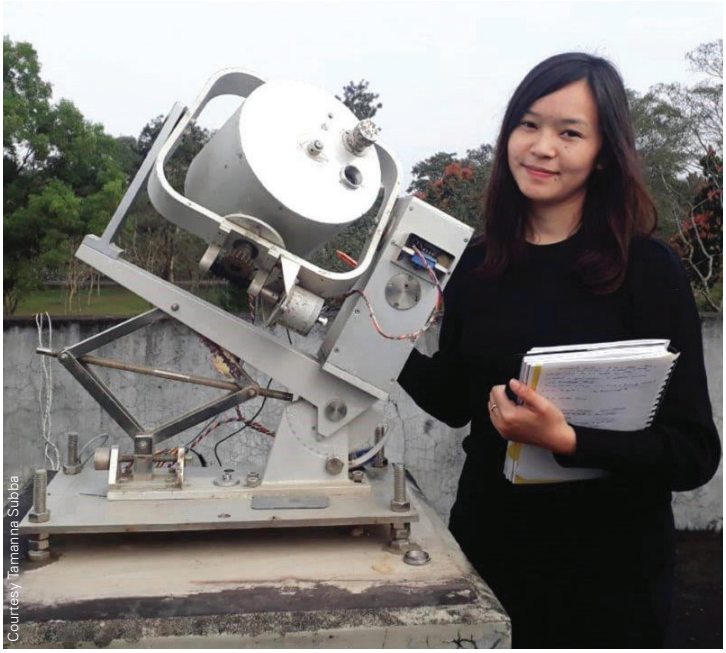
The commitment of the United States and India to promoting scientific and technical innovations includes ensuring that everyone has an equal opportunity to pursue STEM education and employment. USAID has partnered with the U.S.-India Strategic Partnership Forum to set up a platform to promote women's leadership in the energy sector in order to foster gender equality. In addition, the U.S. Embassy has organized a range of events to encourage girls to pursue careers in STEM. In early 2020, the Embassy organized an event that provided microscopes to girls in a New Delhi neighborhood and utilized the microscopes to examine water quality by observing the differences between polluted and clean water. In 2019, Principal Deputy Assistant Secretary of State for the Bureau of Oceans and International Environmental and Scientific Affairs Marcia Bernicat met with female leaders from across the Indian government and NGO community to discuss the landscape in India for women in STEM occupations. In 2016, NASA astronaut Sunita Williams held a STEM roundtable to encourage girls to pursue their dreams in the field of science and technology.

U.S. Consulate General Mumbai

U.S. Embassy New Delhi

U.S. Consulate General Kolkata

The U.S. Embassy and Consulates encourage girls and women to pursue careers in STEM through a range of events.



Fulbright-Kalam Climate Fellows and Fulbright-Nehru Fellows from India contribute to academic research on air pollution and wildlife conservation.

setting a model for harnessing private sector initiatives. Since 2015, for example, most of the foreign satellites launched by India have been from U.S. companies. In 2017, when ISRO set a world record by launching 104 satellites on one rocket, 96 were from private companies in the United States. Such U.S.-India collaboration has provided a host of global benefits, ranging from improvements in communications to scientific research.

Building Scientific Knowledge through Professional and Academic Exchanges

In recent years, an increasing number of U.S. and Indian scientists have collaborated, thanks in part to exchanges supported by the U.S. and Indian governments, non-profit institutions, and private firms. In September 2014, President Obama and Prime Minister Modi announced the Fulbright-Kalam Climate Fellowship to strengthen our long-term capacity in scientific research to address climate change-related issues. Since its inception in 2016, 31 doctoral and post-doctoral researchers have benefited from the Fellowship. For example, in 2018, the Lawrence Berkeley National Laboratory in California hosted Fulbright-Kalam Fellow Dr. Jayaraman Chillayil. He subsequently published a guide to design, construct, and operate energy efficient buildings in India.

The U.S. Mission in India has sponsored the travel of dozens of Indian scientists to the United States on the International Visitor Leadership Program to

Courtesy Society for Indoor Environment

An air quality sensor being installed in North India.

meet and exchange best practices with U.S. counterparts. Recent programs have focused on biodiversity, clean air, space, and science and technology innovation, among other topics. The U.S.-India Educational Foundation has funded numerous grants under the Fulbright-Nehru Fellowship program for Indians to conduct research in the United States in fields such as bioengineering, climate science, artificial intelligence, and physical sciences. The U.S. Embassy has also sponsored several Science Fellows to visit from the United States for collaboration with Indian counterparts on issues such as supporting women in science and air pollution.

Increasing Collaboration to Combat Air Pollution

In recent years, the United States and India have expanded cooperation to reduce air pollution, a serious challenge for health and economic growth in both countries. The United States, drawing on our own experiences in improving air quality, has contributed to India's efforts to better understand and monitor air pollution through scientific exchange, technological collaboration, and data collection.

The U.S. Mission in India has installed advanced air quality monitors at its Embassy in New Delhi and its Consulates in Chennai, Hyderabad, Kolkata, and Mumbai, and now shares that information with the Indian scientific community and public. The U.S. Embassy has also provided over 55 low-cost air quality sensors to

schools and institutions across North India to increase data collection, while also stimulating interest in air pollution among students. In a February 2020 article in *The Mint*, Ambassador Kenneth I. Juster highlighted ways India could draw on the experiences of the United States in addressing air pollution.

The U.S. Science Envoy for Air Quality, Dr. James Schauer, visited India in 2018 and 2019 to discuss best practices in air pollution enforcement and mitigation with a wide range of Indian researchers, government officials, and civil society organizations. In 2015, Dr. Sri Nadadur of the U.S. National Institute of Environmental Health Sciences spent three months in New Delhi working with partners on a program to research air pollution and its impact on health. The U.S. Centers for Disease Control and Prevention and the National Institutes of Health have worked with the Indian Council of Medical Research and other partners in India on reducing household use of solid fuels for cooking and heating, and on addressing ambient air pollution.

In addition to these government programs, many U.S. and Indian academics are collaborating on air quality research. Emory University in Atlanta, for example, is working with the Sri Ramachandra Institute of Higher Education and Research in Chennai to study the benefits of using liquefied petroleum gas (LPG) for household cooking. This research aligns with Prime Minister Modi's Ujjwala Yojana program that provides subsidies for LPG to tens of millions of Indian households.

To assist India's efforts to increase transparency in industrial emissions, the U.S. Agency for International Development (USAID) worked with Indian partners to launch a "star rating" program for industrial plants in 2017. Following its successful roll-out in Maharashtra and Gujarat, other states have announced their intention to adopt the mandatory pollution disclosure scheme. USAID also supported a pilot program in Surat, Gujarat, which allows for market-based regulation of pollution mitigation. This program, supported by the Gujarat Pollution Control Board and designed by the Energy Policy Institute at the University of Chicago, was the first "cap-and-trade" program for particulate emissions in India, and the world.

In addition, U.S. companies have contributed to the battle

R.S. Iyer © AP Images

WORKING TOGETHER TO UNDERSTAND MONSOONS

Beginning in 2012, the U.S. Office of Naval Research funded a five-year program to study the interaction between the sea surface and the atmosphere in monsoon cloud formation. This program operated in collaboration with the Indian Ministry of Earth Sciences. An increased understanding of ocean temperatures and the factors influencing the monsoon will help make weather predictions more accurate and improve predictions of natural disasters, as well as improve agricultural planning and other economic activities.

against air pollution through the provision of technologies that reduce particulate matter emissions and improve energy efficiency. For example, Bharat Heavy Electricals Limited procured twin boiler equipment from GE Power in 2018 for a thermal power project that will increase energy efficiency and reduce pollution.

Protecting Wildlife and Preserving Forests While Promoting Livelihoods

In recent years, the United States and India have expanded a long history of partnering to preserve India's remarkable national resources and wildlife. The U.S. Fish and Wildlife Service (USFWS) has 19 active programs in India, ranging from building community support for snow leopards to protecting the habitats of India's sea turtles. The USFWS started a three-year program in 2019 to build support for Asian elephants through protection and education in high-conflict zones surrounding elephant reserves in India's Western Ghats. Other USFWS grants have supported the protection of Bengal tigers, one-horned rhinos, and hoolock gibbons in Assam and Arunachal Pradesh.

The United States and India are also partnering to counter wildlife trafficking, a major threat to animal species. In 2018, the U.S. Department of State's Bureau of International Narcotics and Law Enforcement Affairs awarded $1 million grants to the Wildlife Conservation Society of India and the Wildlife Trust of India to train Indian local and national-level officials on best practices in countering wildlife trafficking. According to the Wildlife Conservation Society, initial data

Forest officers participate in USAID's Forest-PLUS program.

Courtesy USAID India

Courtesy USAID India

Members of a forest community participate in a sustainability program supported by USAID.

from these programs indicate a 100 percent increase in successful prosecutions for wildlife trafficking crimes in the areas in which the projects are operating.

From 2014 to 2019, USAID supported the Tiger Matters program to protect the tiger population in central India. The program, carried out with the Wildlife Conservation Trust, trained thousands of forest and wildlife workers and helped establish new areas for tiger conservation, such as the Umred-Karhandla and the Ghodazari wildlife sanctuaries in Maharashtra.

The United States and India have also worked together to preserve the remarkable biodiversity of India's forests and ecosystems. Partnering with the Ministry of Environment, Forest and Climate Change and the state forest departments of Karnataka, Madhya Pradesh, Sikkim, and Himachal Pradesh, USAID developed new management practices to improve the ecological health and carbon stock of forests in India, as well as the livelihoods of people who depend on the forest. USAID's Forest-PLUS program worked with the Forest Survey of India on remote-sensed data models and protocols to measure forest conditions in India to provide more accurate estimates of carbon stocks and flows.

Courtesy Care Earth Trust Chennai

The "Water Matters" exhibition in Chennai in 2020.

Clean Water, Clean World

The United States and Indian governments, along with non-profit and private sector partners, have increased cooperation to improve access to clean water. In December 2019, the U.S. Geological Survey and the Indian Ministry of Jal Shakti signed an agreement on water cooperation. U.S. Consulate General Chennai partnered with the Smithsonian Institution in Washington, D.C. to organize a multi-faceted, two-year campaign called "Water Matters," which encouraged greater public awareness of and support for sustainable water management. USAID has provided technical assistance to the Atal Mission for Rejuvenation and Urban Transformation, launched by Prime Minister Modi in 2015, to ensure that functional sewage networks are combined with a clean water supply.

The U.S. government has also worked with Indian partners to protect forested catchment areas to sustain rivers and the water they provide. USAID is currently working with the Indian Ministry of Environment, Forest and Climate Change to develop new forest management practices for federal and local officials, including the *Van* (forest) system. The *Van* system has already been implemented in Kerala, Telangana, and Bihar to collect data from 300,000 hectares of forested areas, helping the Kerala Forest Department to update its forest management practices.

U.S. companies have contributed to these efforts

Prabhakar Jayavarapu for USAID

A Safe Water Network kiosk provides clean drinking water in Hyderabad.

with advanced technologies, including ways to use water more efficiently for residential, agricultural, and industrial purposes. Maine-based IDEXX Laboratories, for example, is a worldwide leader in providing tests for the quality and safety of water, and has worked with many Indian partners and clients. It recently expanded operations in India by establishing an office in Bengaluru to provide water-testing services across several Indian states.

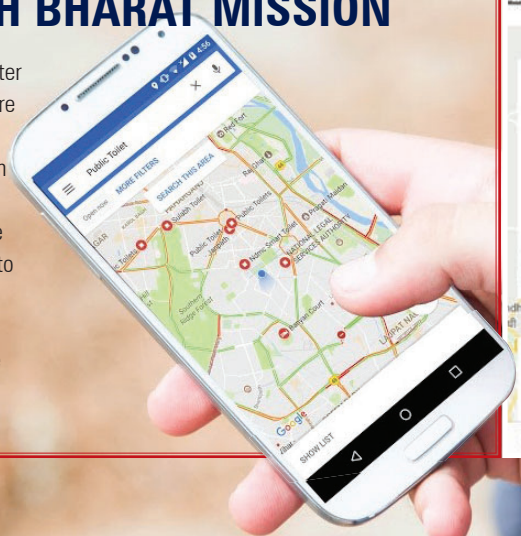
Cooperation in Science Offers a Cleaner, More Productive, and More Sustainable Future

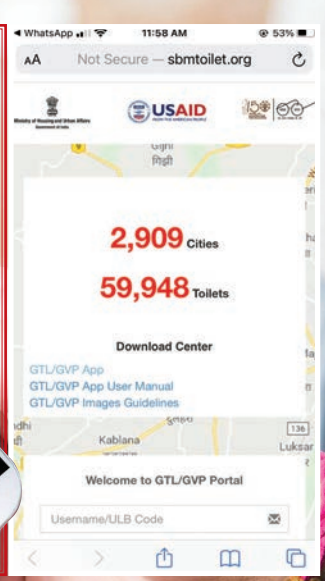
Americans and Indians have long collaborated to share our knowledge, to explore our world, and to preserve the wonders of nature. Our joint efforts have benefited our peoples, our natural environments, and the planet. Many academic, scientific, and commercial technologies and achievements stand witness to this record.

But there is much more to be done, both to contribute to our development and to ensure that we are doing so in clean, ethical, and sustainable ways. As leading democracies, we know that this is our responsibility, to our nations and to the world. We are confident that we will be able to draw on the talents and innovative spirits of our peoples to succeed.

SUPPORTING THE SWACHH BHARAT MISSION

In support of Prime Minister Narendra Modi's signature "100 million toilets" construction project Swachh Bharat, USAID joined the partnership between Google and the Indian government to develop a toilet locator that helps citizens locate public toilets and provide real-time feedback on their working conditions.





SBM (U) MOHUA

PEOPLE-TO-PEOPLE TIES

Despite being on opposite ends of the Indo-Pacific region, the United States and India are bound together by a growing web of personal connections and mutual affinities. There are few other bilateral relationships in the world where people-to-people ties are as strong and as positive. These ties offer a variety of direct benefits for our countries, including increased trade and investment, exchanges of best practices in diverse fields, sharing of cultures and religions, and opportunities for study and research.

Official White House Photo by Andrea Hanks

A Long and Diverse History of People-to-People Ties

Strong people-to-people ties between the United States and India date back over 200 years, to the earliest days of the United States and well before India's independence. Early interactions between Americans and Indians were driven by trade, starting with Captain Thomas Bell's visit to Puducherry and Chennai in December 1784 aboard his aptly-named ship, the *United States*. Captain Bell, whose ship brought tobacco, Virginia ginseng, and assorted hardware, was given a friendly

reception by the Nawab of Arcot, in modern-day Tamil Nadu. In fact, the visit went so well that one of the ship's crew, William Moore, decided to stay in India and manage a warehouse in Puducherry.

In the 19th century, Americans mostly traveled to India for business, but also for religious, academic, and medical purposes. Later in the century, Indians began traveling to the United States for higher education, for economic opportunity, and to sell traditional Indian medicines, among other reasons. Swami Vivekananda's speech on Hinduism at the World's Parliament of Religions in Chicago in 1893 helped people in the United States, and the world, learn about India. He spent over two years traveling around the United States on two separate trips, traveling from coast to coast, setting up Vedanta philosophy centers, and introducing Americans to yoga.

The first significant wave of Indian immigrants to the United States occurred in the late 19th and early 20th centuries. Many traveled from Punjab to California to work in agriculture. Other immigrants included Bengali Muslim business people who arrived in cities such as New York and New Orleans. Many Indians broke social barriers and contributed to civil rights gains in America. Bhagat Singh Thind, who came to California in 1913 to study at the University of California, Berkeley, was one such trailblazer. He joined the U.S. Army during World War I

First Lady Melania Trump (2020) and First Lady Michelle Obama (2010) spend time with Indian youth in New Delhi and Mumbai, respectively.

Official White House Photo by Pete Souza

Far left: Prime Minister Jawaharlal Nehru and U.S. Ambassador Loy Henderson sign an agreement to establish the Fulbright Program in India, in 1950.

Left: Dalip Singh Saund became the first Indian American elected to the U.S. Congress, in 1956.

and won permission to wear his turban during service. He earned a Ph.D. and became a lecturer on metaphysics and religions.

In the late 19th and early 20th centuries, Americans came to India for a growing range of reasons, including to seek business opportunities, to serve as missionaries, to explore India's culture and religions, and to work on health and other issues. Many Indians met an American for the first time during World War II, when approximately 400,000 U.S. soldiers served in Kolkata and India's northeast.

As India gained independence and the United States relaxed its immigration laws, people-to-people ties multiplied. Indians immigrated to the United States in larger numbers, encouraged by educational and professional opportunities as well as family ties. Indian Americans steadily became more prominent in medicine, science, business, and public service. Dalip Singh Saund of California became the first Indian American elected to the U.S. Congress in 1956. At the same time, more Americans traveled to India, drawn by business, tourism, and family connections.

The U.S. and Indian governments encouraged these people-to-people ties. In 1950, they introduced a U.S.-India binational agreement on educational exchange. This agreement, signed by Prime Minister Jawaharlal Nehru and U.S. Ambassador Loy Henderson, established the Fulbright Program in India. Private U.S. universities and non-profits, such as the Ford and Rockefeller Foundations, helped create academic institutions in India and support cooperation with other American counterparts. People-to-people ties gathered further pace in the 1990s and 2000s, as India's economy opened and globalization facilitated travel and communication.

A Recent Expansion of People-To-People Ties, Including through Travel

In the last few years, people-to-people ties have advanced in a number of areas. The growth in tourism and travel between the United States and India, for

example, has brought more of our people into direct contact than ever. In 2019, 1.5 million Indian visitors traveled to the United States, contributing $14 billion to the U.S. economy. Meanwhile, Americans are now the second largest group of foreign citizens visiting India (following only Bangladesh), with 1.46 million visitors entering India in 2019. They come for a wide range of purposes, including visiting family, tourism, academic research, yoga retreats, and medical treatment. Both governments have sought to facilitate this travel, opening new Consulates and adding staff.

Today, the United States operates Consulates in Chennai, Hyderabad, Kolkata, and Mumbai, in addition to the Embassy in New Delhi. In the last 10 years, the Embassy and Consulates have issued over 250,000 immigrant visas, and more than seven million non-immigrant visas, including nearly 500,000 non-immigrant student visas. In the last seven years, the U.S. Mission to India has hired additional personnel and improved visa processing to support the 45 percent increase in visa applications from Indians. India has Consulates in Atlanta, Chicago, Houston, New York, and San Francisco, in addition to the Embassy in Washington, D.C.

Professional travel between the United States and India is significant. This includes business people traveling to corporate offices for meetings and negotiations, scientists and doctors traveling for conferences, athletes and artists traveling for competitions and performances, and ship crews bringing cargo or cruise ships to port. Beyond the dollars and rupees spent on airlines and hotels, these visits contribute to the exchange of ideas between our countries, spurring innovation, expanding knowledge, and enriching our lives. Increasingly, U.S. and Indian universities are working together to conduct joint research. These collaborations, among other achievements, have contributed to lowering medical costs in America and improved the monitoring of air and water pollution in India.

U.S. Embassy New Delhi

Above: In the last 10 years, the U.S. Embassy and Consulates have issued nearly 500,000 non-immigrant student visas.

Charles Sykes © AP Images/Invision

Left: A.R. Rahman traveled to New Jersey in 2017 to perform for fans in the United States.

Jeff Bottari ©AP Images/Invision for Adobe

Indian-American business and academic leaders, such as Shantanu Narayen (above), the Chairman, President, and Chief Executive Officer of Adobe Inc., and Pulitzer Prize-winning author Dr. Siddhartha Mukherjee (opposite page), are making significant contributions to the United States and beyond.

The Indian-American Diaspora: Bringing Two Cultures Together

The vibrant heart of U.S.-India people-to-people ties is the Indian-American diaspora, which provides a living bridge across the Indo-Pacific region. Hailing from all parts of India and spread out across the United States, the members of this diaspora are ambassadors for both countries. Drawing on their deep talents and energy, they share ideas, culture, know-how, financing, and personal warmth. This is the beauty of the overall U.S.-India partnership – it is people-centric, not government-directed.

The recent growth in the size and achievements of the Indian-American diaspora has had a profound impact on the bilateral relationship. Between 2010 and 2020, the number of Indians and Indian Americans in the United States has grown about 40 percent to an estimated four million people. Indian Americans have demonstrated a remarkable ability to thrive and succeed in almost every sector of American life, from academia to medicine, law to business, and arts to public service.

As a group, Indian Americans are often measured as the most educated, literate, and high-earning in the United States. In fact, 33 percent of all immigrant-founded startups in the United States have Indian founders, a number that far exceeds that of any other immigrant group. Many successful Indian Americans have returned to India to start companies and invest in Indian startups, creating jobs and spreading knowledge. They have also initiated research partnerships and

student exchange programs with Indian universities.

Indian Americans have demonstrated a remarkable propensity to organize collectively and contribute within U.S. civil society, building on an American tradition of citizen participation in local government, and Indian traditions such as village councils, or *panchayat*, and movements such as *Arya Samaj*. Indian Americans have created state-based groups such as the North American Punjabi Association, professional associations such as the Asian American Hotel Owners Association, and political groups such as the United States India Political Action Committee.

Indian Americans have sent substantial flows of material assistance to India, reflecting the values of hard work and charity in both countries. Much of this is remittances from individuals. But there are other sources as well, such as venture capital funds to seed Indian startups, and resources to support charitable groups such as the American India Foundation. In 2017, remittances from the United States to India totaled over $11.7 billion.

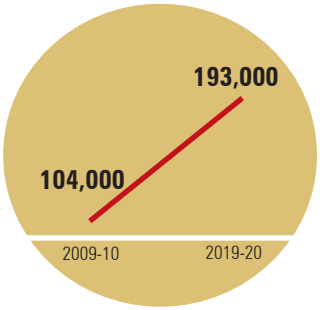
Growing Educational Ties

Educational links between the United States and India have seen notable growth in recent years, including enrollments in higher education, joint scholarships, institutional cooperation, and government dialogues on education. These links have strengthened our economies, contributed knowledge to a

> In America, we have come to know the splendor of Indian culture personally, through the 4 million Indian Americans living in the United States as our wonderful friends, colleagues, and neighbors.
>
> *—President Donald J. Trump, 2020*

Courtesy National Institutes of Health

NUMBER OF INDIAN STUDENTS IN THE UNITED STATES



Source: https://opendoorsdata.org/

diverse range of fields, improved our understanding of each other, and enriched our societies.

Indian participation in U.S. higher education has been especially powerful. Many Americans meet Indian citizens for the first time on a U.S. college campus, and many Indians learn about America through WhatsApp calls with relatives studying at U.S. universities. The United States attracts the greatest number of Indians studying abroad, and Indians form the second largest group of foreign students at U.S. universities.

Since 2010, the number of Indian students in the United States has roughly doubled. In academic year 2018-19, the number rose to over 200,000 for the first time ever. Now, over one in five international students in the United States comes from India. In addition, an increasing number of American students are enrolling in Indian universities to study language, history, culture, public health, and economics, among other subjects.

Cooperation in higher education extends beyond student enrollments. Institutional cooperation and official dialogues on education form an important part of the U.S.-India partnership. An increasing number of Indians are teaching at or leading American universities, such as Dr. Pradeep Khosla, the Chancellor of the University California, San Diego, and Dr. Nitin Nohria, Dean of the Harvard Business School. Indian companies, foundations, and government agencies also support teaching and research opportunities at American universities.

The same is happening in India. Many Americans are serving as professors or administrators at private Indian universities, such as Dr. Sunder Ramaswamy, the Vice Chancellor of Krea University, and Dr. Vanita Shastri, Dean of

An increasing number of Indians are teaching at or leading American universities, including Lake Superior State University Robotics Director Jim Devaprasad (below) and Dr. Pradeep Khosla, the Chancellor of the University of California, San Diego (below right).

Courtesy Lake Superior State University

UC San Diego Publications/Erik Jepsen

CITIZEN DIPLOMACY

In 1940, President Franklin D. Roosevelt appointed Nelson Rockefeller, a prominent American politician and businessman, as Coordinator of Inter-American Affairs. In that capacity, Rockefeller initiated an exchange of persons program with Latin America, inviting 130 Latin American journalists to the United States, with the goal of achieving better relations among nations of the Western Hemisphere. Over 60 years, the exchange program he launched has evolved into the International Visitor Leadership Program (IVLP), administered by the U.S. Department of State. Nearly 5,000 emerging leaders from various fields and nationalities now visit the United States each year as IVLP participants, to foster greater mutual understanding and international collaboration. The IVLP has paved the way for other educational, cultural, and professional exchange programs sponsored by the U.S. State Department, building bridges between one million citizens of the United States and other countries.

In India, international exchange programs with the United States began in the 1960s and exemplify the strong historical ties between our two countries. The programs range from the professional – such as IVLP, Fortune/U.S. State Department Global Women's Mentoring Partnership, and the Professional Fellows Program – to the political – such as the American Council of Young Political Leaders and the National Council for State Legislators. The programs also include educational and cultural exchanges – such as the Fulbright-Nehru Fellowship, Hubert H. Humphrey Fellowship, Study of the United States Institutes, the Near East and South Asia Undergraduate Exchange Program, and the Tibetan Scholarship Program – and youth-focused ones – such as the Community College Initiative Program and the Kennedy-Lugar Youth Exchange and Study. Over the years, these programs have provided Indian participants from all spheres and strata of society an opportunity to visit the United States, usually for the first time, to experience American culture with host families, build professional networks, share best practices, and learn more about their fields of interest.

Anna Fucikova

Science writer Nandita Jayaraj (far left) participated in the International Visitor Leadership Program on "Advancing Women in STEAM Fields" in the United States in 2018.

Global Education and Strategic Programs at Ashoka University. Several India or South Asia Studies programs have been established in the United States, as well as American Studies programs in India. Many U.S. and Indian universities have set up direct partnerships or consortia to exchange faculty, students, curricula, and best practices.

Since 2012, students from the University of Iowa have traveled to India for three weeks every winter to collaborate with their peers at Indian universities and civil society organizations. In 2018, for example, participants from Iowa partnered with the Indian Institute of Technology Roorkee to conduct joint research projects on water sustainability. Students from the University of Minnesota School of Public Health travel to West Bengal and Karnataka to research global health topics, partnering with the Jan Seva School in Kolkata and the Division of Public Health at

Courtesy Isaac Kehimkar

Courtesy USIEF

Above and above right: The Fulbright-Nehru program supports the two-way exchange of hundreds of scholars each year.

Right: The East India Women's Hockey and Leadership Camp in Jharkhand, led by 16 American field hockey players from Middlebury College, Vermont.

U.S. Consulate General Kolkata

NITTE (Deemed to be University) in Mangaluru. While these interactions are important, there is room to expand cooperation in higher education, especially through the presence of American universities in India.

Exchange programs have played an important role in facilitating direct interactions between U.S. and Indian policymakers, scholars, students, and experts. Successful exchange programs are supported by both governments. Perhaps the most well-known is the Fulbright-Nehru program, now in its 70th year. The program has been funded jointly by our two governments since 2008, and supports the two-way travel of hundreds of scholars each year, providing opportunities for personal, academic, and professional growth. Alumni of the Fulbright-Nehru program are leaders in many walks of life, including agriculture, arts, business, education, environment, humanities and social sciences, public health, science, and technology.

The U.S. government supports several other annual exchanges, including the International Visitor Leadership Program, which brings hundreds of Indian leaders

in a wide range of fields to the United States each year for short study tours. The Indian government has also expanded exchange programs for U.S citizens in recent years, including for elected officials, scholars, diplomats, and members of the diaspora. In addition, non-profit groups, such as the American India Foundation and Rotary International, sponsor exchange fellowships.

In the past five years, the U.S. Mission to India has increased the number of EducationUSA advising centers. Seven advising centers are located throughout India – in New Delhi, Hyderabad, Chennai, Kolkata, Bengaluru, Ahmedabad, and Mumbai, and in early 2021, a second EducationUSA Center is scheduled to open in Hyderabad. These centers provide Indians with accurate and comprehensive

RESEARCH COLLABORATIONS

Partnership 2020 was inspired by the belief that U.S. and Indian universities can create tangible economic development in our two nations by working together. The goal is to create a program that funds collaborative research in 10 strategic areas, including public health, water management, renewable energy, sustainable agriculture, artificial intelligence, and entrepreneurship.

Since the project's launch in 2019, it has funded 26 U.S. and Indian universities collaborating in these critical areas. For instance, a team from the University of North Texas and Shiv Nadar University, Uttar Pradesh, is developing materials for use in bioimplants, which are biosynthetic materials used in medical applications. The goal is to create advanced materials that are resilient in the human body and less likely to corrode, compared to the currently available products. This project seeks to enhance the "health span" and longevity of patients who may require bioimplants such as stents.

The program also seeks to create economic opportunities by leveraging private sector participation. These collaborations could take many forms, from local companies testing prototypes and evaluating a product's industry-readiness, to facilitating women's economic empowerment through entrepreneurship, to developing novel food supplements, to mitigating the risk of tuberculosis. Partnership 2020 is funded by the U.S. Department of State and the U.S. Embassy New Delhi, implemented in collaboration with the University of Nebraska Omaha, with the Washington, D.C.-based Center for Strategic and International Studies playing an advisory role.

Courtesy University of North Texas

information about opportunities to study in the United States. The State Department recently launched the Partnership 2020 initiative with the University of Nebraska Omaha. This initiative expands collaboration with Indian universities, harnessing higher education to drive economic growth. One such collaboration is a project between Claflin University of South Carolina and Visva-Bharati University in West Bengal, supporting the management skills of women entrepreneurs running small enterprises.

The Bridge of Culture, Food, and Sports

An increased familiarity with each other's culture, food, and sports has brought our countries even closer together. In the United States, the practice of yoga has grown significantly, with one in three Americans having tried it. Americans love Indian food, ranging from upscale restaurants such as Rasika in Washington, D.C. and Tamarind Tribeca in New York, to affordable chains such as the Bawarchi biryani eateries. Several Indian restaurants have opened branches in the United States, including Indian Accent. Indian-American chefs such as Padma Lakshmi and Floyd Cardoz have become national celebrities and have helped teach Americans about Indian food.

Americans are familiar with authors such as Arundhati Roy and Chetan Bhagat, and with films such as *Dangal*. Indian actors are also popular. Priyanka Chopra has established herself in Hollywood, and Indian Americans such as Mindy Kaling and Kal Penn have become household names. The Indian government sponsors programs to acquaint Americans with classical Indian art forms, such as Carnatic music and Kathak dance.

Sports such as cricket and kabaddi have grown in popularity in the United States. In 2016, the United States sent a team to the Kabaddi World Cup in

Below: Indian-American food expert and best-selling author Padma Lakshmi appears on the NBC "Today" television program.
Below right: New York City residents celebrate International Yoga Day.

Richard Drew © AP Images

© AP Images/Times Square, NYC

Rajanish Kakade © AP Images

The first NBA games in India took place in Mumbai in 2019.

The Ambassadors Fund for Cultural Preservation supported restoration efforts at Sunderwala Burj in New Delhi.

Gujarat. In 2017, the U.S. National Basketball Association opened the NBA Academy India in the National Capital Region of Delhi to develop Indian talent and interest in the sport. The first series of NBA games in India took place in Mumbai in 2019, thanks in part to one of the team's Indian-American owners.

The growth of streaming media has brought a broader selection of American TV and movies to millions of Indian households. Netflix, Amazon, YouTube, and Disney+ Hotstar provide new choices to consumers, as well as the ever-popular Hollywood blockbusters. U.S. social media such as Facebook, Twitter, Instagram, and WhatsApp have helped Indians connect with each other, and with friends and family in the United States. The U.S. government has helped bring other aspects of American culture to India, such as bluegrass music, modern dance, beatboxing, hip hop music, and standup comedy.

The U.S. Embassy has contributed to the preservation of India's cultural heritage through the Ambassadors Fund for

U.S. Consulate General Hyderabad

Courtesy banglanatak dot com

The Ambassadors Fund for Cultural Preservation has supported restoration efforts at the Taramati and Premamati Tombs at the Qutb Shahi Tombs complex in Hyderabad (above), and a project to document the folk music traditions of West Bengal (left), among others.

Courtesy NSLI-Y

American high school students learn Hindi through the U.S. State Department's National Security Language Initiative for Youth Hindi program.

Cultural Preservation (AFCP). Through the AFCP, the U.S. Embassy has partnered with local organizations in conservation and restoration efforts at some of India's most significant monuments, including the UNESCO World Heritage sites of the Sunderwala Burj and the Batashewala Mughal Tomb Complex in New Delhi, and the 18th century Balaji Ghat in Varanasi. The AFCP has also supported projects that document the folk music traditions of western Rajasthan and West Bengal, and the preservation of palm leaf manuscripts and rare books in Bengaluru. AFCP projects have increased in value since 2000, growing from $5,000 to $1.6 million across India.

The Languages That Unite Us

Familiarity with the English language has helped Indians improve their connections with the United States and the rest of the world. It allows American firms in Los Angeles to contract business processing work to Indian companies in Hyderabad, scientists to work together on vaccine research, the U.S. and Indian militaries to conduct joint exercises, and much more. Since 2015, the U.S. Embassy in India has increased by five-fold its support for English language programs in India, often organized in collaboration with Indian federal and state governments or educational institutions.

At the same time, Americans have become increasingly familiar with both Indian English and Indian languages such as Hindi and Tamil. Americans might be aware they are learning Indian language words such as *asana* through yoga or other words through food, such as *dosa* and *raita*. But they might not know the many words that have entered modern English from Indian languages, including *guru*, *pajama*, *chit*, *juggernaut*, *pundit*, and *pariah*.

The Religions That Give Meaning to the Lives of Many

The United States and India have grown closer through an awareness and practice of shared religions. We are both secular countries distinguished by the vibrant practice of multiple religions. As Americans were exposed to Indian culture through immigrants, they learned about India being the birthplace of major religions such as Hinduism, Buddhism, Jainism, and Sikhism. They have also become aware that India has long been home to proud communities of

Top: An Iftar dinner at Roosevelt House, the U.S. Ambassador's residence, in New Delhi. Above: Holi celebration in Utah. Above right: The leading float at the Baisakhi parade in Los Angeles.

Muslims, Christians, and Jews. As the number of Indian Americans has grown, so have the religious ties across the Indo-Pacific. Many religious organizations work in both countries, coordinating religious training, fundraising, and other aspects of religious life.

The Hindu group Bochasanwasi Shri Akshar Purushottam Swaminarayan Sanstha (BAPS), for example, has built beautiful temples in both countries in recent years, including an Akshardham temple in New Jersey in 2014. The

PEOPLE-TO-PEOPLE TIES PUSH THE BOUNDARIES OF SCIENCE

The United States and India appreciate the wealth of scientific talent in their countries and recognize that great things will happen when their people work together. An important conduit for this collaboration is the U.S.-India Science and Technology Endowment Fund (USISTEF).

Established in 2009, USISTEF supports the commercialization of innovative technologies that are jointly developed by partners from both countries. Key successes include the ReMotion Knee, a high-performance, low-cost prosthetic knee joint for above-knee amputees, and SmartCMOT, a handheld, portable, battery-operated device that improves the diagnosis of lung disease in the field and reduces the risk of infection transmission between patients, at a cost 90 percent less than traditional designs. Both governments used the USISTEF to support innovative efforts to combat COVID-19. USISTEF provided initial financing to 11 promising technologies, chosen from over 400 proposals, to help the world in its fight against COVID-19. These projects range from developing faster and cheaper COVID-19 tests, to exploring a non-invasive nasal ventilation device.

Second World Hindu Conference, held in Chicago in September 2018, brought together thousands of Hindus from around the world. The United Sikh Movement organized its fifth conference for Sikh Student Associations in Berkeley, California, in November 2019. In 1904, the first Jain temple in the United States was designated in St. Louis, Missouri. Now, Jain centers can be found throughout the country, in California, New York, Arizona, Illinois, and Colorado. Many Catholic, Protestant, and non-denominational churches in India have links to American Christian groups. Religious pilgrimages to India are also popular among Americans.

Think Tanks, Media, and Civil Society Improve Lives

Cooperation between U.S. and Indian think tanks, media, and civil society groups has strengthened in recent years. Prominent American think tanks have established offices or connections in India, including Aspen, Brookings, and Carnegie. Many other U.S. think tanks have established South Asia programs or hired experts on India. Some think tanks, such as the U.S.-based Center for Naval Analyses and the India-based National Maritime Foundation, collaborate regularly on research and conferences. Indian think tanks have also begun to open offices in the United States, such as the Observer Research Foundation.

Partnerships between U.S. and Indian journalists and media groups have increased, reflecting the importance of an independent media in both countries. *The Mint* newspaper, for example, was set up in India by a former *Wall Street Journal* editor, Raju Narisetti. A broad array of non-governmental organizations operate in both countries. These include business groups such as the American

Chamber of Commerce in India, the U.S.-India Business Council, the U.S.-India Strategic Partnership Forum, the Federation of Indian Chambers of Commerce and Industry, and the Confederation of Indian Industry, as well as charitable organizations such as Pratham and the Bill & Melinda Gates Foundation.

> The foundation of the U.S.-India relationship is our people-to-people ties and shared interests in promoting stability and prosperity in the Indo-Pacific region and beyond. U.S.-India cultural engagement is an important part of this relationship.
>
> *—Ambassador Kenneth I. Juster, 2020*

A Bilateral Relationship Backed by Strong Public Support

The result of these strong people-to-people ties is that public sentiment in the United States and India for the other country is very positive. Opinion polls show citizens of one country look favorably upon the other. Gallup polls on Americans' views of India show a steady increase in favorability since 2000. In 2018, people in America placed India among their top eight "most-favored" foreign countries.

According to a Pew Research report published before President Donald J. Trump's 2020 visit to India, approximately 75 percent of Indian adults held the U.S.-India relationship in high regard, stating that current relations overall, as well as economic ties, were good between the two nations. A 2019 Chicago Council on Foreign Relations survey found that 63 percent of Americans believed that the U.S. relationship with India strengthened U.S. national security, one of the highest results for any country. A survey of Indian national security elites conducted by Brookings India in 2019 found similar results – 75 percent of respondents stated that the United States was India's most important global partner.

Looking to the Future

People-to-people ties have continued to grow over the past few years. These connections enrich both societies, provide a foundation for the U.S.-India Comprehensive Global Strategic Partnership, and contribute to the world. They give us hope for the future, and confidence that this will be a defining partnership for the 21st century.

U.S. Embassy New Delhi

Ambassador Kenneth I. Juster with India's Junior NBA champions in 2018.

U.S. Embassy New Delhi
Shantipath, Chanakyapuri
New Delhi - 110021
Phone: 011-91-11-2419-8000
facebook.com/India.usembassy
twitter.com/USAndIndia

U.S Consulate General Chennai
Gemini Circle
Chennai 600 006
Phone: 044-2857-4000/044-2811-2000
facebook.com/chennai.usconsulate/
twitter.com/USAndChennai

U.S. Consulate General Hyderabad
Paigah Palace
1-8-323, Chiran Fort Lane
Begumpet, Secunderabad 500 003
Phone: 040-4033 8300
facebook.com/usconsulategeneralhyderabad
twitter.com/USAndHyderabad

U.S. Consulate General Kolkata
38A, J.L. Nehru Road,
Kolkata - 700 071,
West Bengal
Phone: 91-33-3984-6300
facebook.com/Kolkata.usconsulate
twitter.com/USAndKolkata

U.S. Consulate General Mumbai
C-49, G-Block, Bandra Kurla Complex
Bandra East, Mumbai 400051
Phone: (91-22) 2672-4000
facebook.com/Mumbai.usconsulate
twitter.com/USAndMumbai

Public Affairs Section
Embassy of the
United States of America
New Delhi