

India-Japan Development Cooperation in the Indo-Pacific, including Africa

1. India and Japan committed to working together to promote peace, stability and prosperity, through economic growth and development in the Indo-Pacific, including Africa, by enhancing connectivity through quality infrastructure and capacity building of our partners. Both countries are of firm belief that all development cooperation must be carried out in an open, transparent and non-exclusive manner and based on international standards including respect for sovereignty and territorial integrity of nations, responsible debt financing practices, and in alignment with local economic and development strategies and priorities.
2. By synergizing India's "Act East Policy" and Prime Minister Modi's 10 guiding principles for India's sustained and regular engagement with African countries, with Japan's "Expanded Partnership for Quality Infrastructure Initiative" and TICAD VI Nairobi declaration, the two countries welcomed and committed to further consultations with host Governments to foster tangible cooperation focusing on development of connectivity and other infrastructure in the Indo-Pacific. India and Japan welcomed progress in identification of specific cooperation, including but not limited to the following:
 - 2.1 Cooperation in Sri Lanka, such as the development of LNG-related infrastructure;
 - 2.2 Cooperation in Myanmar, synergizing development efforts in the Rakhine State by collaborating in housing, education and electrification projects;
 - 2.3 Cooperation in Bangladesh, for enhancing connectivity by way of four-laning of road and reconstruction of bridges on the Ramgarh to Baraiyarhat stretch, and providing rolling stock and constructing the Jamuna Railway Bridge over the Januma River; and
 - 2.4 Cooperation in Africa, such as organising an SME development seminar in Kenya and seeking a possibility of a collaborative project in the area of health service such as developing a cancer hospital in Kenya.
3. The two countries also acknowledged the importance of expanding cooperation in human resource development, capacity building, healthcare, livelihood, water, sanitation and in the digital space, and of working together to extend access to education, health and other amenities, and assist the people of the Indo-Pacific, including Africa, to realize their developmental potentials.
4. Further, the two countries will work towards establishing an India-Japan Business Platform to enhance the exchanges between Indian and Japanese businesses toward developing industrial corridors and industrial network in the region. In this context, the two countries welcomed the Memorandum of Understanding between NEXI and ECGC, which is expected to promote development of concrete India-Japan business projects in the region.
5. Both India and Japan believe that their development cooperation in the Indo-Pacific can contribute to unlocking the potential for an equitable, positive and forward-looking change in the region, and contribute to socio-economic development of Africa.

India-Japan Cooperation Act East Forum

- 1 India's North East Region is one of the main areas of India's Act East Policy. The region also shares historical and traditional bonds with ASEAN countries, and has the potential to be India's springboard to the ASEAN region. Enhancing connectivity within North East Region and with its neighboring countries is essential to tap its potential and presents crystallized examples of the shared vision between Japan and India as expressed in the Vision Statement.
- 2 The Act East Forum established last year has served as a driving force to advance India-Japan cooperation in the North-East. Its second meeting was held on 8th October with the following outcomes:
 - 2.1 Expediting implementation:
 - ✧ Meghalaya North East Connectivity
 - Phase 1: Tura-Dalu (NH-51)
 - Phase 2: Shillong-Dawki (NH-40)
 - ✧ Mizoram North East Connectivity
 - Phase 1 & 2: Aizawl-Tuipang (NH-54)
 - ✧ Sikkim: Biodiversity Conservation & Forest Management
 - ✧ Nagaland: Forest Conservation Livelihood Improvement
 - 2.2 Japan and India reaffirmed their intentions to proceed with:
 - ✧ Completion of Gelephu-Dalu Corridor in collaboration with the ADB including Dhubri/Phulbari bridge project, which will be the longest river bridge in India if realized, as Phase 3 of North East Road Network Connectivity Improvement Project.
 - ✧ Consideration of developing Main District Roads (MDRs) and Other District Roads (ODRs), which will have positive socio-economic effect.
 - ✧ ODA loan to the "Project for Renovation and Modernization of Umiam-Umtru Stage-III Hydroelectric Power Station"
 - ✧ Sustainable Forest Management in Tripura, and consideration for a similar project in Meghalaya.
 - 2.3 Skill and Vocational Initiatives:
 - ✧ To launch "Japan-India North East Bamboo Initiative" in view of the significance bamboo plays in the region. Industrial uses of bamboos and bamboo forest management will be pursued under this initiative, building on the successful first "North East Bamboo Workshop."
 - ✧ To promote Japanese language education in the North East as a part of the commitment made by the two Prime Ministers to establish Japanese language certificate courses at 100 higher educational institutions in India. The Forum welcomed the interest for such courses expressed by Cotton University and Gauhati University in Assam state, EFLU in Meghalaya state as well as NIT-N in Nagaland state, to which Japan is prepared to provide appropriate support through Japanese Language

Teachers Training Centre. More proposals from North East States are welcome.

- ✧ To promote skill training including Japanese language for caregivers from North East who visit Japan for training under TITP (Technical Intern Training Program) ,which contributes to enhancing cooperation between the two countries under the Asia Health and Wellbeing Initiative.

2.4 Disaster Management:

- ✧ Japan's contribution to resilient infrastructures in North East Region and through Capacity Development Project on Highways in Mountainous Regions
- ✧ Knowledge sharing through the Japan-India Workshop on Disaster Risk Reduction
- ✧ Pursuit of better utilizing JICA Knowledge Co-Creation Program (Group & Region Focus) to provide relevant training opportunities for the officials of North East.

- 3 The Forum will review the progress of projects under its initiatives and further consider future cooperation concerning the North East Region of India.

India-Japan Economic and ODA Cooperation

Recognising the significant contribution of Japan's ODA to the socio-economic development of India, India expressed appreciation for Japan's continuous support that symbolises the ties between the two countries. In this regard, India and Japan reviewed with satisfaction the Japan's assistance as shown below:

Japan's ODA Loan

Since the last Summit in India in September 2017, the following projects were provided ODA Loans:

- Bengaluru Water Supply and Sewerage Project (Phase 3) (I) [Karnataka]
- Mumbai Metro Line 3 Project (II) [Maharashtra]
- Project for Construction of Chennai Seawater Desalination Plant (I) [Tamil Nadu]
- Project for Improvement of Himachal Pradesh Forest Ecosystems Management and Livelihoods [Himachal Pradesh]
- Project for Installation of Chennai Metropolitan Area Intelligent Transport Systems [Tamil Nadu]

During the 13th Summit, the signing ceremony of exchange of notes regarding the following projects including the Mumbai-Ahmedabad High Speed Railway Project (II) took place:

- Project for the Construction of Mumbai-Ahmedabad High Speed Rail (II) [Maharashtra and Gujarat]
- Project for Renovation and Modernization of Umiam-Umtru Stage-III Hydroelectric Power Station [Meghalaya]
- Delhi Mass Rapid Transport System Project (Phase 3) (III) [Delhi]
- North East Road Network Connectivity Improvement Project (Phase 3) (I) [Dhubri in Assam and Phulbari in Meghalaya]
- Project for the Construction of Turga Pumped Storage (I) [Purulia in West Bengal]
- Project for the Construction of Chennai Peripheral Ring Road (Phase 1) [Tamil Nadu]
- Project for Sustainable Catchment Forest Management in Tripura [Tripura]

In addition, India expressed expectation that ODA loan regarding the dairy development in India will be provided soon and that preparatory surveys on pollution abatement of River Nag at Nagpur in Maharashtra, rural water supply in Madhya Pradesh, landscape community forest and water management in Meghalaya would commence soon. India also welcomed that relevant authorities of India and Japan started discussions for cooperation through ODA loan to promote SDGs in India.

Varanasi convention center

The two sides welcomed the progress of the Project for Construction of the International Cooperation and Convention Center in Varanasi, which is deemed as the symbol of friendship between Japan and India. India appreciated the additional grant aid already provided by Japan.

Grant aid for improving traffic congestion and urban environment

India also expressed its appreciation for the signing of the Exchange of Notes for the provision of a grant aid to the Project for Implementation of Advanced Traffic Information and Management System in Core Bengaluru in December 2017.

India-Japan Cooperation in Railways

Mumbai Ahmedabad High Speed Rail

To revolutionize the connectivity in India and introduce the High Speed Rail, India and Japan are cooperating to construct the Mumbai Ahmedabad High Speed Rail (MAHSR). Given the significance of the project, it is being monitored at the apex-level in the form of Joint Committee Meeting (JCM) presently co-chaired by Dr. Rajiv Kumar, Vice-Chairman NITI Aayog, from the Indian side and Dr. Hiroto Izumi, Special Adviser to Prime Minister Shinzo Abe, on the Japanese side.

The 8th JCM on MAHSR project held in Delhi on 17 September 2018 confirmed the steady progress of the project and it was also agreed that both sides will continue to advance mutual efforts to facilitate the smooth achievement of the project. Minister of Land, Infrastructure, Transport and Tourism, Mr. Keiichi Ishii and Parliamentary Vice-Minister of Land, Infrastructure, Transport & Tourism Mr. Masatoshi Akimoto visited India respectively in December 2017 and in May 2018 from the perspective of MAHSR Project, including station area development such as the approach roads, station plaza and multimodal integration plan.

During the summit meeting, Exchange of Notes and Loan Agreement for the second tranche of Japanese ODA Loan for MAHSR Project were signed, following completion of JICA's Appraisal Mission in September 2018 and signing of the Loan Agreement for the first tranche of Japanese ODA Loan between JICA and DEA on 28 September, 2018.

Current status: National High Speed Rail Corporation Limited (NHSRCL) is the implementing agency of the project. Final Location Survey of the project has already been completed. Based on final alignment, all underground & overhead utilities have been identified. The process of land acquisition has begun between Mumbai & Ahmedabad with target of completion by December 2018. Joint Measurement Survey has been completed for 328 km out of 487km. The entire project, including the High-Speed Rail training institute, has been divided into 26 contract packages, out of which 4 packages are already awarded. Multimodal Transport Integration Plan, an important component for creating a smart and sustainable integrated transport network, is ongoing for all the 12 stations. Memorandum for general consultancy has been signed by JICA with the Ministry of Railways, NHSRCL and JV of Japanese consultants and marks an important development in the project timeline.

Western Dedicated Freight Corridor (DFC)

Western DFC, a corridor of 1,522 km from Jawaharlal Nehru Port Terminal (JNPT) to Dadri visualized for reducing the congestion in the Mumbai-Delhi route, being executed through JICA funding.

Current Status: DFC has achieved overall 48% physical progress of civil packages and track laying of 802Km has been completed. Approx. 99% land acquisition has

been made and tenders have been awarded worth Rs. 33,130 Cr (JPY 523 billion). Trial run of an Indian Railways Freight train was conducted successfully on 15 August 2018 on the 190km long Ateli-Phulera section of the DFC falling on the Jaipur Division of North Western Railway between the National Capital Region (NCR) and Mumbai and thus marked an important milestone in this game-changer project.

Future cooperation

(i) Make in India: In order to realize the Make in India objectives in MAHSR project, a Task Force comprising DIPP, Embassy of Japan, NHRCL, MLIT and METI was constituted and recommendations have been agreed for four sub-groups i.e. Civil works, Track Works, Electrical Works (including Signal & Telecom) and Rolling Stock. Six train sets will be done under Make in India out of a total 24 train sets.

(ii) Training: A new High-Speed Rail Training Institute is being built at the National Academy of Indian Railways campus in Vadodara utilizing Japanese ODA Loan through JICA. Two contracts out of total Three have been awarded. Last tender of training institute was invited in July 2018 and is expected to be finalized by December 2018. The construction of Training Institute has started and it is planned to open by December 2020. In order to have sufficient human resources for operation of the important High Speed Rail Project, training of 480 Ministry of Railways and 120 NHRCL officials for 2018&2019 was agreed to during the 7th JCM. Already, 287 young officers of Indian Railways have undergone training in Japan in 2017-18 about High-Speed Rail technology. Government of Japan has offered 20 seats per year for master degree course from the universities of Japan, for serving Indian Railways officials. At present, 17 officers are undergoing the Masters' program in various universities and for the year 2019, applications have been called for 20 seats.

(iii) Upgrading infrastructure and technical cooperation: With Government of India's renewed focus on ensuring safety of Railways, India has been cooperating with Japan to study its best practices in this area. Under JICA technical cooperation, a team of safety experts from Japan had visited Indian Railways to investigate the status of rail welding execution and safety management. "The Project for Capacity Development on Railway Safety" will be taken under Technical Cooperation to develop the capacities of the Indian Railways and Dedicated Freight Corridor Corporation of India Limited with regard to safety of the railway network on track maintenance including rail welding techniques and rolling stock maintenance for improving safety.

India-Japan Cooperation in “Make in India”

Based on the "Japan-India Investment Promotion Roadmap" committed between METI and DIPP in September 2017, in addition to opening the JETRO's Business Support Center (BSC) in Ahmedabad, Gujarat in July this year, various investment promotion seminars were held in Japan and India.

On 29 October 2018, private sector investment projects proposed by about 60 Japanese companies were showcased to Prime Minister Modi, which would be facilitated by Invest India and JETRO. These projects include the sectors providing greater impetus to “Make in India” such as automobile, steel, electronics, IoT and AI, chemical, food processing, etc. The total investment is projected to be approximately 280 billion JPY with creation of over 29,000 additional jobs in India.

Regarding the Japanese Industrial Townships (JITs), METI and DIPP exchanged the progress reports on the implemented actions and major achievements for promotion of JITs including, but not limited to, infrastructure development, promotional activities, fiscal incentives, improvement in Ease of Doing Business and human resource development.

As a new initiative, METI and DIPP decided to cooperate on the development of “Advanced Model Single Window” to streamline administrative procedures in Central and State Governments of India based on the best practices in and outside India and its capacity building, thereby accelerating India's effort to promote Ease of Doing Business in India.

“Logistics Data Bank Project”, a DMIC project which contributes to efficient logistics/supply chain by visualization of international marine container transportation using RFID tag at related port/inland facility, is further contributing to improvement in the business environment.

India-Japan Cooperation in Skill Development

In order to provide an enabling framework for augmenting manufacturing base in India by training 30,000 persons over 10 years, in 2016, the Ministry of Skill Development and Entrepreneurship (MSDE) and the Ministry of Economy Trade and Industry (METI) signed a Memorandum of Cooperation (MOC) **on Manufacturing Skill Transfer Promotion Programme**, thereby also contributing to flagship initiatives such as “Skill India” and “Make in India”. Under the MoC, Japanese companies in India are participating in Skill Development through the establishment of Japan India Institute of Manufacturing (JIM) and Japanese Endowed Courses (JEC).

JIMs have already been established to train future shop floor leaders in Japanese style manufacturing processes and key working methods such as Kaizen and 5S, etc. Five Japanese Companies took the lead by establishing JIMs in 2017 viz., Suzuki (Gujarat), Daikin (Rajasthan), Yamaha (Tamil Nadu), Toyota and Hitachi (Karnataka). In 2018, Ahresty established its JIM in Bawal (Haryana), Toyota Tsusho in Mandal (Gujarat), And Terumo in Thiruvananthapuram (Kerala).

JECs have been initiated in select engineering colleges for training middle management engineers in the manufacturing sector. Meidensha Corporation established the first JEC in power transformation and generation in 2017 followed by Mitsubishi Electric, which has established Factory Automation course in numerous Engineering Colleges across India in 2018.

MSDE of India signed the **MoC on Technical Intern Training Programme (TITP)** with the Ministry of Health, Labor and Welfare, Ministry of Justice and Ministry of Foreign Affairs of Japan in October 2017 creating an enabled framework for bilateral cooperation for appropriate implementation of TITP under the revised Technical Intern Training Act of Japan. India completed the first round of accreditation of 23 Sending Organisations in March 2018 that are recognized by the Organization for Technical Intern Training (OTIT) of Japan for accepting interns under the MoC on TITP. From July to September 2018, the first group of 15 Indian interns trained by CII (an accredited Sending Organisation) has been accepted to train on the job in a Japanese company under the TITP framework. As on date, 17 technical interns from India have entered Japan under TITP.

Outreach programmes such as a **Workshop on TITP** (February 2018) in New Delhi and an **India Seminar on TITP in Nagoya (September 2018)** have been organized by MSDE along with National Skill Development Corporation and JITCO to showcase India’s strength in providing skilled interns to meet Japanese needs and to sensitize relevant stakeholders in India and about the opportunities in TITP.

Future Cooperation

- (i) Japan and India will continue their efforts on skill development in India through JIM/JEC and thereby further contribute to “Skill India” and “Make in India”.
- (ii) Japan and India will promote skill training such as Japanese language, including for caregivers from North East who visit Japan for training under TITP (Technical Intern Training Program), which contributes to enhancing cooperation between the two countries under the Asia Health and Wellbeing Initiative.

India-Japan Cooperation on Digital Partnership

To leap ahead together in the era of technology and to tap into the synergies and complementarities between Japan's "Society 5.0" and India's flagship programmes like "Digital India", "Smart City" and "Start-up India" for promoting "Ease of Living", the two nations will cooperate in areas of next generation technologies such as Artificial Intelligence (AI), and Internet of Things (IoT), etc. In this regard, Ministry of Economy, Trade and Industry (METI), Japan and Ministry of Electronics & Information Technology (MeitY), India have held 6 rounds of Joint Working Group (JWG) meetings till 2018 and Ministry of Communications (MOC), India and Ministry of Internal Affairs and Communications (MIC), Japan signed a Joint Minutes on cooperation in ICT sector under the fifth meeting of India-Japan JWG in 2018.

In this context, the two Prime Ministers have welcomed a holistic "India-Japan Digital Partnership" (I-JDP), which was signed as a Memorandum of Cooperation between MeitY India and METI, Japan, to further the existing areas of cooperation as well as to explore opportunities of new initiatives in ICT (Information and Communications Technologies) , with a special emphasis on "Digital Technologies" and also, expand the scope of India-Japan "Start-up Hub".

Start-up Hub between India and Japan: In pursuance of realizing the commitment of the two Prime Ministers as reflected in the Joint Statement of the India-Japan Annual Summit 2017 to establish an India-Japan Startup-hub, both sides signed the Joint Statement on Japan-India Startup Initiative during the visit of METI Minister Seko to India in May this year that included the establishment of a Startup Hub in Bengaluru stationed at JETRO as an interface between respective startups and firms for more collaboration such as by identifying selected Indian startups for Japanese market and for potential Japanese investors. Also, online platform of Japan-India Startup Hub established by Invest India will serve the same.

Talent Facilitation: The exchange of talents between India and Japan is essential to synergize the competitiveness and experience of industries in both countries. To realize this, I-JDP will consider initiating and also expanding already existing mechanisms for facilitating training opportunities and Internship programs, organizing Job Fairs (Japan career fair), introducing the Start-Up Program for highly skilled Indian professionals (namely Japanese "Green Card" and Highly Skilled Professional VISA), expanding JEC Courses to IT and electronics firms.

Cooperation in R&D: To promote linkages between NITI Aayog, spearheading the National Programme for AI Research in India, and METI, focusing on promoting emerging technologies under "Society 5.0", India and Japan signed an overarching Statement of Intent between NITI Aayog and METI on Artificial Intelligence with provision of exploring possibilities for specific institutional cooperation such as between Artificial Intelligence Research Centre of National Institute of Advanced Industrial Science and Technology in Japan and IIT Hyderabad in India.

Projects in ICT areas having Security dimension: Realizing the need for an advanced and a secure technology, under this partnership, India and Japan will consider cooperating in the areas

of security of digital infrastructure of future networks, framework for Telecom Security etc. Both leaders welcomed the initiation for laying the submarine optical fiber cables for connecting Chennai and the Andaman islands by Bharat Sanchar Nigam Limited (BSNL) of India and NEC of Japan, and both side will further cooperate in the development of submarine cable projects in view of their strategic importance.

Electronics Ecosystem: India and Japan would establish a partnership mechanism between both sides on Electronics Manufacturing including collaboration between Indian and Japanese companies in Electronics System Design, related Software technologies and electronics manufacturing for long tail market.

Digital Corporate Partnership: India and Japan will aim at promoting corporate and business linkages in the field of IT between India and Japan through initiatives such as matching events, dispatching business missions and BSNL, a Public Sector Undertaking (PSU) under the Ministry of Communications India and NTT-AT of Japan signed the MoU on cooperation in Telecommunication. National Association of Software and Services Companies (NASSCOM) from the Indian side and Prefecture Government of Hiroshima have established the first “IT Corridor” in Japan to “co-create for global markets leveraging Japanese ecosystem strengths on the hardware side and Indian ecosystem on the software side”.

Cooperation between India and Japan on Agriculture, Food Processing, Food Safety, Forestry, and Fisheries

A: Agriculture

1. Joint Working Group based on the MOC between MAFF and MoAFW

- (i) Memorandum of Cooperation (MOC) signed on 11 November 2016 (when the Prime Minister Modi visited Japan)
- (ii) The 1st Joint Working Group (JWG) was held on 6 November 2017 (after the World Food India (WFI) 2017)

A. Identified three areas of cooperation:

- a) Agricultural productivity
 - b) Food processing
 - c) Fisheries
- iii) “The Program for Promoting Investment into India by Japan in the field of Agriculture and Fisheries”
- Based on the discussion at the 1st JWG, (Ministry of Agriculture, Forestry and Fisheries (MAFF) and Ministry of Agriculture and Farmers’ Welfare (MoAFW)) deliberated the way to promote the investment into India on agriculture and fisheries and signed “The Program for Promoting Investment into India by Japan in the Field of Agriculture and Fisheries” on 29 October 2018.
- (iv) ISE Food’s Telangana Mega Project supported by the Japan-India Food Business Council was registered as the first investment case for the Programme.

2. Indo-Japan Agricultural Center of Excellence

- MAFF and MoAFW discussed as to how Japan can contribute to improve agricultural productivity by using Japanese technologies.
- One idea is to set up Indo-Japan Agricultural Center of Excellence where Japanese technologies are showcased, spread, and products made with these technologies are sold.

3. Research Cooperation

- (i) MOU on Joint Research between Japan International Research Center for Agricultural Sciences (JIRCAS) and Indian Council of Agricultural Research (ICAR) was signed on 9 February 2018
- (ii) First kick-off meeting was held on 15 June 2018 in Karnal and discussed the cooperation on (a) development of low-cost subsurface drainage and irrigation technology in salt-affected fields for sustainable agricultural production, and (b) development of regionally-adopted salt-tolerant crop.

B: Food processing

1. World Food India 2017

Japan participated in the WFI 2017 as a partner country and Mr. Taniyai, State Minister for Agriculture, Forestry and Fisheries of Japan led the Japanese delegation. Approximately 60 Japanese companies participated in the event.

2. MOC between MAFF and MoFPI

(i) MOC between MAFF and MoFPI was signed and exchanged in the presence of two leaders of Japan and India on 29 October 2018.

3. MOU between MoFPI and Japanese companies

- (i) Signed the first MOU (Memorandum of Understanding) between Ministry of Food Processing Industry (MoFPI) and a Japanese company (ISE Food) on 13 March 2018.
- (ii) Signed MOUs between MoFPI and Japanese companies (Kagome and Nissan Steel) on 29 October 2018.

4 Associations for studying Indian Agro-Food Market in Japan

- (i) MAFF is promoting the development of Global Food Value Chain (GFVC) and organised the India Sub-committee of the Public-Private Council for Promoting GFVC in March 2018. Approximately 400 companies are the members of the Council.
- (ii) The Japan India Food Business Council was launched in May 2018.

C: Food safety

MOC between FSSAI and the Japanese Government

Signed MOC between Food Safety and Standards Authority of India (FSSAI) and Food Safety Commission, Consumer Affairs Agency, Ministry Health, Labor and Welfare and MAFF of Japan on 29 October 2018.

D: Forestry

Joint Working Group based on the MOC between MAFF and MoEF&CC

- (i) MOC between MAFF and Ministry of Environment, Forestry and Climate Change (MoEF&CC) was signed on 11 December 2015.
 - Identified seven areas of cooperation
 - a) Human resource development and institutional exchange between training institutes
 - b) Sustainable forest management
 - c) Enhancement of forest conservation and forest disaster prevention
 - d) Conservation of biodiversity
 - e) Effective utilization of forest resources
 - f) Enhancement of relevant policies on forests, forestry and technologies
 - g) Research and development in forestry sector
- (ii) During the 3rd JWG on 23 July 2018 “Roadmap for India-Japan forest and forestry

cooperation” from 2018 to 2022 was agreed upon

E: Fisheries

- (1) Concurred on Sanitary Certificate Covering Fish and Fishery Products for export to India for Human Consumption in March 2018.
- (2) Concurred on Certificate Covering Prawn Feed/ Shrimp Feed/ Fish Feed for export from Japan to India in October 2018.

F: Cooperation between MAFF and State Governments, and some activities by private companies

(1) Andhra Pradesh State (AP state)

- (a) Between MAFF and AP state, MOC in the field of Agricultural and Food related industry was signed on 30 July 2016.
- (b) Between MAFF and AP state, MOC on designing of the Master Plan was signed on 25 Feb 2018.
 - Study for making the Master Plan on Cold-Chain in AP state commenced from July 2018.

(2) Maharashtra State (MH state)

- (a) Between MAFF and MH state, MOC signed on 29 October 2018

(3) Uttar Pradesh State (UP state)

- (a) Between MAFF and UP state, MOC was signed on 26 October 2018

G. Japan International Cooperation Agency (JICA)

- (1) “Andhra Pradesh Irrigation and Livelihood Improvement Project (Phase2)” Between JICA and Ministry of Finance (MoF), LA was signed on 13 December 2017.
- (2) “Project for Improvement of Himachal Pradesh Forest Ecosystems Management and Livelihoods”
Between JICA and Embassy of India, LA was signed on 29 March 2018.
- (3) “Project for Livelihood Improvement in Dairy Sector through Cooperatives” JICA started preparatory survey in July 2018.

India-Japan Security and Defence Cooperation

India and Japan have made significant progress in the last decade in fostering joint efforts towards shared security since the announcement of the India-Japan Joint Declaration on Security Cooperation in 2008. Both countries desire to further deepen bilateral security and defence cooperation through established mechanisms, including the Annual Defence Ministerial Dialogue, Defence Policy Dialogue, the national Security Advisors' Dialogue, Staff-level dialogue between each service and bilateral dialogue between Coast Guards, as well as exercises between each of three Services and exercises between the Coast Guards. Both countries attach importance to the Malabar exercise, regular Passage Exercises (PASSEX) and other joint exercises including the first counter terrorism exercise between the Japan Ground Self-Defense Force (JGSDF) and the Indian Army as well as Japan Air Self-Defense Force's (JASDF) participation as observer in Cope India and welcome increased cooperation with like-minded countries.

Maritime security cooperation between India and Japan through enhanced exchanges in expanding maritime domain awareness (MDA) and mutual logistics support in the Indo-Pacific Region contributes to regional peace and stability. During the 13th Summit, the two Prime Ministers welcomed the signing the Implementing Arrangement for Deeper Cooperation between the Indian Navy and the Japan Maritime Self-Defense Force (JMSDF) and commencement of negotiations for the Acquisition, Cross-Servicing Agreement (ACSA). These two documents will enhance the strategic depth of the relationship. Cooperation between India and Japan on defence equipment and technology holds immense scope and potential for future bilateral collaborations.

Enabling Framework

- Defence cooperation between India and Japan flows from the Joint Declaration Security Cooperation 2008 and the Memorandum on Defence Cooperation and Exchanges concluded in 2014.
- The Agreement concerning the Transfer of Defence Equipment and Technology and Agreement concerning Security Measures for the Protection of Classified Military Information also concluded in 2015 have further built on this edifice.
- The Implementing Arrangement for Deeper Cooperation between the Indian Navy and JMSDF was signed in October 2018.
- It will establish the means and framework for information sharing and conduct of joint exercises and other maritime engagements for the enhancement of Maritime Security and MDA, including the exchange of shipping information.

Current Status

At the apex level the **Annual Defence Ministerial Meeting** was commenced in May 2006, with the last meeting held in India in August 2018. The **Defence Policy Dialogue** (DPD) was commenced in April 2007 in Tokyo; the 6th edition of DPD and 5th edition of 2+2 Dialogue was held in New Delhi in June 2018.

- **Service Staff Talks** between each of three services are in place. The 7th Indian Navy-to- JMSDF Staff talks were held in January 2018 in Delhi and the 2nd Indian Air Force-to-JASDF Staff Talks was held in June 2018 in Delhi. The 5th Indian Army-to-Japan JGSDF Staff Talks will also be held in India in early 2019. The 17th Indian Coast Guard(ICG) and Japan Coast Guard (JCG) high level meeting was held in New Delhi in January 2018.
- **Joint Exercises:** India and Japan have a high frequency of Indian Navy-to- JMSDF exercises with the Trilateral Malabar Exercise being the most significant engagement. Malabar 2018 was conducted off Guam in June 2018 and witnessed significant participation from all the participants. The bilateral maritime exercise JIMEX-18 was held off Visakhapatnam in October 2018, after an interlude of 5 years, with the participation of Japan's helicopter destroyer Kaga. PASSEX are regularly conducted during the visit of Indian Naval ships and JMSDF ships to each other's ports in India and Japan. PASSEX were held in September 2017 off Western India, October 2017 off Western Kyushu, Japan, November 2017 in the Sea of Japan, January 2018 off Mumbai and May 2018 off Visakhapatnam and September 2018 off the Gulf of Aden. The first Air anti-submarine (ASW) exercise between Indian Navy P-8I and JMSDF P-3C was held off Goa in October 2017, during the return transit of the JMSDF aircraft deployed to the Gulf of Aden for anti-piracy operations. This was followed by an Air ASW exercise between JMSDF P-1 and Indian Navy P-8I in May 2018 off Goa. India and Japan will conduct the first Counter Terrorism exercise between the JGSDF and the Indian Army in November 2018. The Indian Army also participated as observers in the Japan and U.S. Common Integration Emergency Drill (TRES-17) held in November 2017, and the Indian Navy took part in the mine and explosive ordnance exercise held in July 2018. There also exist a large number of Subject Matter Expert Exchanges amongst all three services in Humanitarian Assistance and Disaster Relief (HA/DR), peacekeeping, helicopter aircrew and meteorology. A joint exercise off the coast of Chennai between the ICG and JCG was held in January 2018.

Defence Equipment and Technology Cooperation

- Defence Expo 18 at Chennai in April 2018 witnessed participation from the Acquisition, Technology and Logistics Agency (ATLA), Ministry of Defense, Japan.
- The Joint Working Group on Defence Equipment and Technology Cooperation (JWG-DETC) constituted in 2014 has met on four occasions with the 4th JWG-DETC held in New Delhi in July 2018. Defence Research and Development Organisation (DRDO) and ATLA signed the Project Arrangement Concerning the Cooperative Research on the Visual SLAM Based GNSS Augmentation Technology for UGV/Robotics in July 2018.
- The first-ever Defence Industry Forum between India and Japan was organised along with the 3rd JWG-DETC in Tokyo in September 2017. This was followed by a similar initiative on the sidelines of the 4th JWG-DETC wherein a Business-to-Business interaction with Japanese defence companies visiting Indian defence industries at Bengaluru and Mumbai under the auspices of Department of Defence Production (DDP) and ATLA was held.

India-Japan Cooperation in Disaster Risk Reduction (DRR)

As two of the most disaster prone countries in the world, India and Japan have been cooperating in the field of Disaster Risk Reduction (DRR) in the implementation and follow-up of the Sendai Framework. In January 2018, Japan participated along with 20 other countries in an international workshop hosted by India as a follow up to the Asian Ministerial Conference on Disaster Risk Reduction (AMCDRR) held in New Delhi in November 2016 where Hon'ble Prime Minister of India Shri Narendra Modi announced that India would be willing to partner with other countries and stakeholders to develop a coalition for disaster resilient infrastructure.

An important milestone in India-Japan cooperation in the field of DRR came during the visit of PM Abe to India in September 2017 for the India-Japan Annual Summit when the two sides concluded a bilateral MoC between Ministry of Home Affairs, Government of India, and the Cabinet Office, the Government of Japan, on cooperation in DRR, Prevention, Response, Recovery and Reconstruction. From the Indian side, National Disaster Management Authority (NDMA) is the nodal agency for implementation of the MoC. Under the MoC, the first Japan-India Workshop on DRR was held in New Delhi in March 2018 with six well-considered sessions such as – Preparedness, Early Warning System and Approaches by Private Sector. At the workshop, apart from sharing Japan's approach of "**Build Back Better**", it also showcased its technologies in early warning systems and shared its own experience in disaster-preparedness. Based on the workshop, Earthquake Early Detection and Warning System, Disaster Risk Assessment particularly with regards to earthquakes and sharing of experiences and good practices on public awareness (e.g. through mock exercises) were identified as concrete action points to take the India-Japan cooperation in this field forward.

Second workshop was held in Tokyo on 15 October 2018. The workshop focused on three topics; (i) Exercise and training, (ii) meteorological hazard, in view of several critical flooding's happened in both countries in 2018, and (iii) early warning system from policy and technology perspectives.

Japan's ODA relevant to DRR: Apart from the above, Japan has been extending its assistance to India through resilient infrastructure development as well as technical cooperation on natural disaster management in forested areas and sustainable development of mountainous highways.

India-Japan Science & Technology and Academic Cooperation

Enabling Framework

India-Japan Science & Technology (S&T) cooperation was formalized through an **Inter-Governmental Agreement** signed in 1985. Bilateral S&T cooperation was further promoted in 1993 with the establishment of the India-Japan Science Council (IJSC), which has till date organized 19 meetings, supported 250 joint projects, 1600 exchange visits of scientists, 65 joint seminars/workshops and 9 Asian Academic seminars and 10 Raman-Mizushima lectures.

In 2006, DST initiated a value based partnership on the principles of 'reciprocity and co-funding with the Japan Society for the Promotion of Science (JSPS) and Japan Science and Technology Agency (JST) through Ministry of Education, Culture, Sports, Science and Technology (MEXT). Since then several Institutional Agreements/ MoUs in the areas of Life Sciences, Material Sciences, High Energy physics, ICT, Biotechnology, Healthcare, Heavy Ion Radiotherapy, Methane Hydrate, Robotics, Alternative Sources of Energy, Marine and Earth Sciences and Technology, Peaceful uses of Outer Space have been signed between the Science Agencies of both countries.

Recent Initiatives

- India-Japan Joint Laboratories in the area of ICT ("Internet of Things, Artificial Intelligence and Big Data Analytics") "Architecting Intelligent Dependable Cyber Physical System Targeting IoT and Mobile Big Data Analysis" between The University of Tokyo and IIT Bombay; "Data Science-based Farming Support System for Sustainable Crop Production under Climatic Change" between The University of Tokyo and IIT Hyderabad; and "Security in the Internet of Things Space" between Kyushu University and IIT Delhi.
- Initiation of DST-JSPS Fellowship Programme for young researchers.
- MoU for second phase of Indian Beam Line at KEK Tsukuba for advanced materials research.
- Under Science and Technology Research Partnership for Sustainable Development (SATREPS) Program, a project "Smart Cities Development for Emerging Countries by Multimodal Transport System Based on Sensing, Network and Big Data Analysis of Regional Transportation" was launched in 2017.
- Under the "Japan-Asia Youth Exchange Program in Science" (Sakura Science Plan), 655 students and supervisors visited Japan from April 2017 through March 2018. 39 students selected by DST who are INSPIRE scholarship awardees, also visited Japan under this Program in May 2018.
- Setting up the **DBT-AIST** Advanced International Laboratory for Advanced Biomedicine (DAILAB) at Tsukuba, Japan and Six SISTERS (Satellite International Institutes for Special Training Education and Research) for drug development and therapeutic diseases in India.

- Ministry of Earth Sciences, Govt. of India (MoES) and Japan Agency for Marine-Earth Science and Technology (JAMSTEC) signed an MoC for collaboration in broad areas under Ocean and Earth Science and Technology in November 2016.
- A Joint Research Contract between DBT and AIST to establish a “**DBT-AIST International CENter for T_ranslational & E_nvironmental R_esearch (DAICENTER)**” was during the Summit in India in September 2017.
- The MoC between the National Institutes for Quantum and Radiological Science and Technology (QST) and Tata Medical Center, Kolkata in the field of heavy ion radiotherapy was signed in September 2017.
- Based on the MoU concerning cooperation in the field of space signed between Indian Space Research Organisation (ISRO) and Japan Aerospace Exploration Agency (JAXA) in November 2016, ISRO and JAXA held the second Joint Working Group in September 2018 to discuss cooperation areas.
- ISRO and JAXA signed the Implementation Arrangement (IA) concerning Pre-Phase A Study and Phase A Study of Joint Lunar Polar Exploration Mission in December 2017, and ISRO and JAXA have successfully completed the feasibility study report in March 2018.
- ISRO and JAXA signed the Implementation Arrangement (IA) concerning cooperation on validations, improvement, and applications of rainfall products using satellite images and ground measurements in June 2018.
- Department of Space (DOS) of India, ISRO, Ministry of Education, Culture, Sports, Science and Technology (MEXT) of Japan and JAXA co-hosted the 24th Session of the Asia-Pacific Regional Space Agency Forum (APRSAF-24) in Bengaluru in November 2017 where the Joint Statement was adopted.

Research & Academic partnerships

- Memorandum for an Internship Program between OMRON Corporation, the Graduate School of Information Science and Engineering of Ritsumeikan University, and the Indian Institute of Technology Hyderabad was signed in November, 2017.
- Hiroshima University signed agreements, memorandums and annexure with eight india institutes as follows:
 - (i) Annexure to Memorandum of Understanding between the Council of Scientific and Industrial Research through the CSIR–Central Electronics Engineering Research Institute (CSIR-CEERI), Pilani, India and Hiroshima University, Japan Concerning International Collaboration on Research, Academic and Educational Exchange (December 2017).

- (ii) Agreement on Academic and Educational Exchange and Memorandum to Academic and Educational Exchange Agreement between Hiroshima University, Japan and Birla Institute of Technology and Science, Pilani, India (BITS-P)(December 2017).
- (iii) Agreement on Academic and Educational Exchange and Memorandum to Academic and Educational Exchange Agreement between Hiroshima University, Japan and Indian Institute of Technology Bombay, India (IIT BOMBAY) (January 2018)
- (iv) Memorandum to Academic and Educational Exchange Agreement between Hiroshima University, Japan and Indian Institute of Engineering Science and Technology, Shibpur, India (January, 2018).
- (v) Memorandum on Student Exchange between Hiroshima University, Japan and CSIR-Central Mechanical Engineering Research Institute (CSIR-CMERI) (January 2018).
- (vi) Memorandum of Agreement for Student Exchange between Indian Institute of Management Ahmedabad (IIMA) and Hiroshima University, Japan (April 2018).
- (vii) Memorandum of Agreement on Academic and Educational Exchange between Indian Institute of Technology Delhi, India and Hiroshima University Japan (May 2018).
- (viii) Memorandum of Understanding on Academic and Educational Exchange between Indian Institute of Technology Hyderabad, India and Hiroshima University, Japan (October, 2018.)
- Department of Mechanical Engineering, Department of Nuclear System Safety Engineering, Nagaoka University of Technology signed two Agreements of Academic and Research Collaboration respectively with Department of Mechanical Engineering, Indian Institute of Technology, Tirupati (January 2018) and School of Engineering Discipline of Metallurgy Engineering and Material Science, Indian Institute of Technology Indore (July 2018)
- Nagasaki University signed three Letters of Intent (LoIs) with All India Institute of Medical Sciences (AIIMS), Indian Institute of Science (IISc), and Indian Institute of Technology Delhi (IIT Delhi) respectively for education and academic research cooperation in July 2018.
- Memorandum of Understanding Between Shizuoka University, Japan and National Institute of Pharmaceutical Education and Research (NIPER), S. A. S. Nagar was signed in October 2018.
- Hokkaido University signed four Academic Exchange Agreements and Memorandums of Understanding on Student Exchange respectively with Indian Institute of Technology

Bombay(January 2018), Indian Institute of Technology Madras (March 2018), Indian Institute of Technology Hyderabad (April 2018), and Indian Institute of Technology Kanpur (October 2018).

- MoU between CSIR, India and Research Centre for Advanced Science and Technology (RCAST), University of Tokyo for R&D cooperation in areas such as Mechatronics including Robotics, Surface Engineering, Energy Storage (especially solar to chemical), and Optoelectronics was signed in October 2018.
- MoU between Council of Scientific & Industrial Research (CSIR), India and Hiroshima University for research partnerships was signed in October 2018.
- Memorandum of Understanding on Further Cooperation toward Indo-Japan Global Startup between Nagasaki University and IIITDM was signed in October 2018.
- Agreement for Cooperation between Institute of Innovative Research, Tokyo Institute of Technology, Japan and Council of Scientific & Industrial Research (CSIR), India was signed in October, 2018.
- MoC between the National Institute of Polar Research (NIPR) of Japan and the National Centre for Polar and Ocean Research of India on Polar Research (NCPOR) was signed in October 2018.

Future Initiatives

Both sides propose to establish Joint research in areas like climate prediction, ocean prediction and few others. Regarding the India-Japan Joint Research Laboratory Programme in the field of ICT between JST and DST, both sides are considering some activities to further continue the collaboration. Regarding the joint lunar polar exploration mission between ISRO and JAXA, both sides will continue the joint study to start the development immediately with the target of launching the mission in early 2020s.

Promotion of Japanese Language Education in India

1. In view of the persistent demand for Japanese language knowing professionals since the past few years, Prime Ministers of India and Japan recognized the importance of expanding Japanese language education in India for achieving wider and closer cooperation in different domains.
2. Memorandum of Cooperation in the field of Japanese Language Education in India was signed during the visit of the Japanese Prime Minister to India on 14 September 2017. This Memorandum of Cooperation provides for establishing a Japanese Language Teachers' Training Centre, training of 1000 Japanese language teachers and establishing of 100 new Japanese language courses, in the next 5 years.
3. The activity is jointly steered by the Ministry of External Affairs and the Embassy of Japan in India with the support of Japan Foundation, Ministry of Human Resource Development, UGC, JNU-HRDC, Ministry of Skill Development and Entrepreneurship, Ministry of Commerce & Industry, Ministry of Health, Family and Welfare, Ministry of Electronics and Information Technology and CSIR.
4. In pursuance of the aims of the Memorandum, the Japanese Language Teachers' Training Centre was established in New Delhi on July 23, 2018 at its temporary location in the Human Resource Development Centre (HRDC) of the Jawaharlal Nehru University (JNU). The centre was inaugurated by Gen. (Dr.) V.K. Singh, Minister of State for External Affairs and Ambassador of Japan in India Mr. Kenji Hiramatsu. The ceremony was attended by JNU Vice Chancellor Professor. Jagadesh Kumar and other senior officials from the Indian side. From the Japanese side, Executive Vice President of Japan Foundation, Mr. Tomoyuki Sakurai and other senior officials attended the event.
5. The first training programme of 360 hours, that spread over a period of 3 months commenced on 23 July 2018 for the Japanese language knowing trainees having N3 level of JLPT (Japanese Language Proficiency Test), completed successfully on 12 October 2018. This course covered beginners and intermediate-level Japanese learners, used different teaching methods and classroom teaching practices. A total of 25 trainees passed this course. Further, a 5-day training course and a 2-day training course were conducted at Shantiniketan from 12 – 16 September 2018 and at Bengaluru from 26-27 October 2018 respectively.