

Environmental Seminar on Air Pollution

Cohosted By Delhi, Fukuoka and JICA

JICA's Experiences towards Better Air

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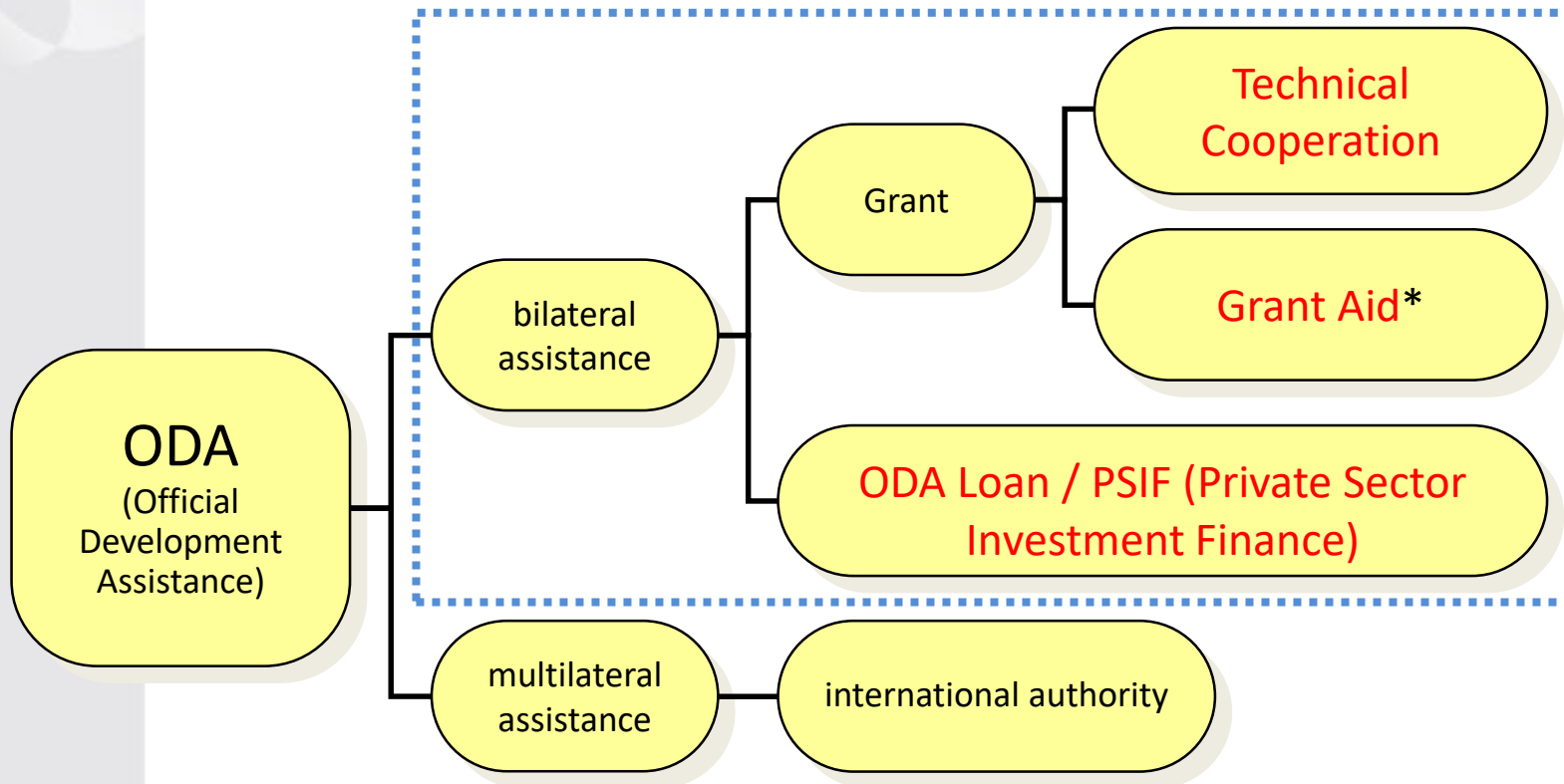
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1. About JICA

What is “JICA”?

- ✓ **JICA** is a governmental agency of Japan that coordinates official development assistance (ODA)
- ✓ **JICA** is the world’s largest bilateral development agency
- ✓ **India** is the largest and the oldest partner of JICA

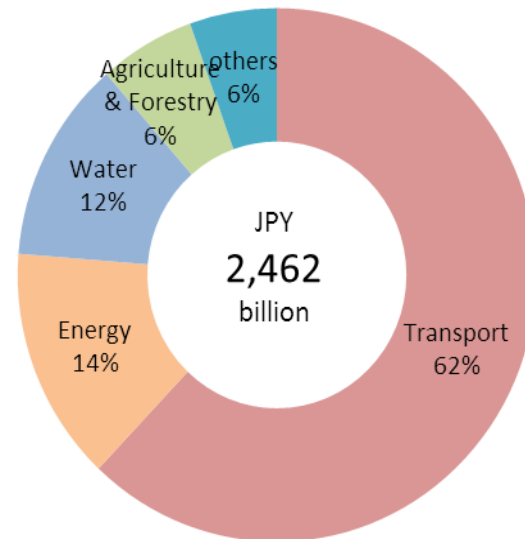


* Part of grant aid is provided by the Ministry of Foreign Affairs.

India is JICA's Largest Partner in the World

Soft Loan

Major Sector (FY2007/08-2016/17)



Accumulated Commitment by FY2016/17:

- JPY 4.9 trillion in total
(equivalent to about Rs. 3 lakh crore)

Operational Results in FY2016/17:

- Commitment: JPY 308.8 billion
(equivalent to about Rs. 16,000 crore)
- Disbursement: JPY 206.1 billion
(equivalent to over Rs. 10,000 crore)

Terms and conditions: (as of Jan. 2018)

- General terms: Interest rate 1.5%, repayment period 30 years (including 10 years grace period)
- STEP: Interest rate 0.1%, repayment period 40 years (including 12 years grace period)

Grant Aid

One on-going project
in health sector in
Chennai

Technical Cooperation

- Results in FY 2016/17
JPY 16.0 billion (about Rs. 850 crore)
- About 1100 Japanese experts to India
- About 250 Trainee from India to Japan

Citizen Partnership / Public-Private Partnership

- Japanese Volunteers
- Japanese NGO activities
- Partnerships with
Private-Sector Activities

2. JICA's Approaches to Air Pollution

Scientific Analysis of cause of air pollution, as to grasp situation is the first step.

Measures against air pollution sources

1. Measures to **point sources** (**factories, power plants, waste incinerators**) : Not only end-of-pipe technology but also comprehensive measures
2. Measures to **vehicular sources** : Consider Technology, Regulatory, Economical measures by cooperation of concerned agencies (fuel, road, traffic management, modal shift, etc)
3. Measures to **area sources** (**road dust, open burning, fuel from domestic sector**) : Regulatory control, etc.

Contingency Plan for the emergency situation

Alert system for citizen, Regulation for industry sector, etc. using real time monitoring data.

Preventive Measures

Land use plan, traffic plan considering air pollution sources.
Environment impact assessment for point sources.

Awareness raising activities (cf. **environmental education**)

3. Case Studies (Outside of India)

Mongolia : Capacity Development Project for Ulaanbaatar City **<Technical Cooperation Project>**

Overall Goal : Measures for emission reduction of air pollutants will be strengthened in Ulaanbaatar City. (Main targets : Major stationary sources such as **3 power plants** and around **200 Heat Boilers**)

Project Purpose : Strengthen capacity for air pollution control in Ulaanbaatar City

Major Outputs

1. Emission Source **Identification** & Evaluation Capabilities
2. Emission Control **Regulatory Capabilities**
3. Emission Reduction Capabilities at **Public / Private Sectors**
4. **Coordinating Mechanism** for Emission Control



exhaust gas from a power plant

Strengthen the capacity of Ulaanbaatar officials to manage air pollution by their hand.

China : Guiyang Environment Model City Project <Loan>

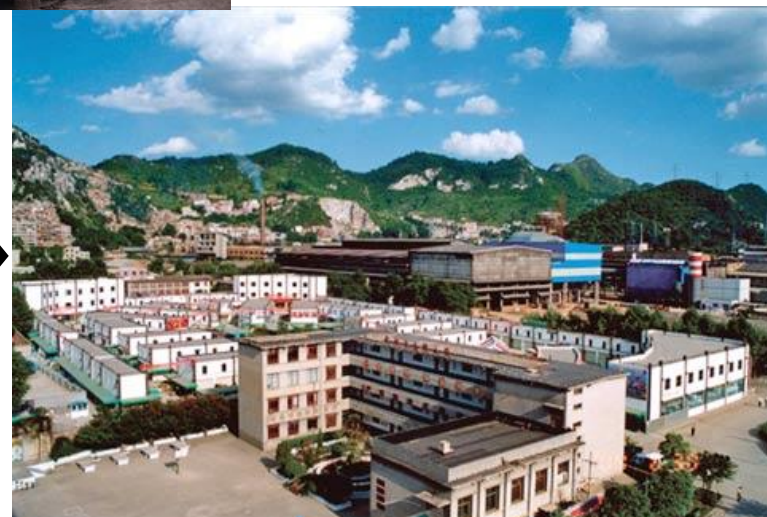
Providing finance for installation of air pollution control facilities (such as flue gas desulfurization facility, electric dust collector, etc.) to **targeted factories and thermal power plants.**



Electric dust collector installed into Steel Plant



Before



After

Vietnam : The Project for Implementation Support for 3R Initiative in Hanoi City <Technical Cooperation Project>

Key Factors of the Project

1. Demonstrating the effectiveness of **pilot projects** on source separation, composting, environmental education and people's participation
2. Strategy focusing on **involvement of various stakeholders**
3. Emphasis on close coordination and collaboration with the stakeholders such as leaders of residential groups and collection workers



Collection Containers
(Green is for Organic Waste)



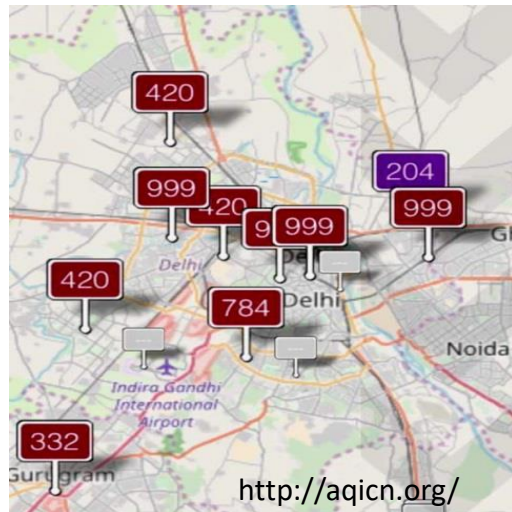
Distribution of Household
Containers to Residents

Over 15,000 households in Hanoi city implement source separation at home (Nov. 2009)

4. Experiences in India

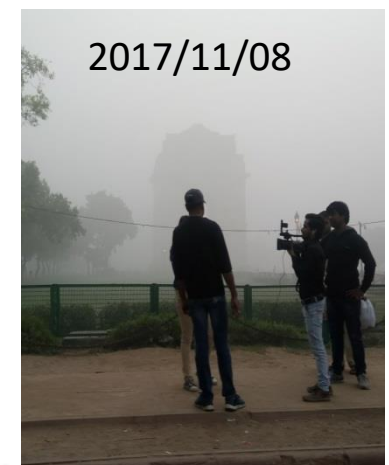
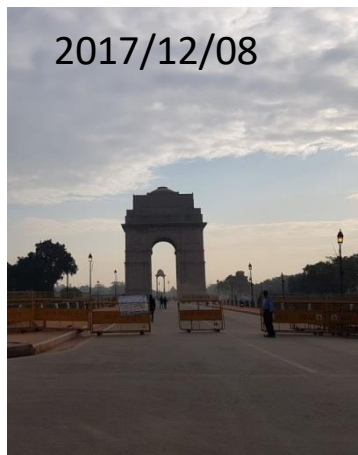
(Reference) Air in Delhi AQI Data

- ✓ **AQI in Delhi in Oct 2017**
Several points show '999'



AQI Category (Range)	
Good	(0-50)
Satisfactory	(51-100)
Moderately polluted	(101-200)
Poor	(201-300)
Very poor	(301-400)
Severe	(401-500)

Photos of Indian Gate (This winter)



Examples of JICA's Collaboration in India – for Better Air

■ Delhi Metro

Modal Shift !



Numerous private transportation

>> Mass transit public transport
over 200km long and nearly 3 million passengers/day.

- ✓ Reduction of vehicles No. : 390,971 /day
- ✓ Reduction of fuel consumption : 276,000 t/year
- ✓ Reduction of pollutants : 577,148 t/year

JICA's support (1997-) : soft loans (JPY642 bil. (about Rs40,000 crore)) and technical cooperation

■ Power Sector

Loss Reduction ! Energy Efficiency ! Renewable Energy !



e.g.

- ✓ Transmission system upgrading in Haryana
(Transmission loss : 2.2% (lowest in India) <<< 2.7%)
- ✓ IREDA's sub-lending scheme for wind/solar etc.
- ✓ Over 200 Indian experts joined JICA training courses in Japan for “energy efficiency & conservation” just in 10 years

■ Training Program in Japan “Air Quality Management”

Capacity Development!

- ✓ Officers from Delhi Participated in 2017
 - 6 weeks program in Japan
 - Site visits to power plants and factories in Japan
 - Action plan workshop
 - Cross learning with participants from other countries



Visit to a factory in Japan



Lecture on air quality management

■ Partnership with Japanese Private Companies

Advanced Technology !



e.g.

- ✓ Security Japan / Ogawa Seiki (J/V) (Tokyo)
Heat Resistant Cameras inside Coke Ovens & Boilers
(with SAIL and NTPC in Bihar and Chhattisgarh)
http://open_jicareport.jica.go.jp/pdf/1000022819.pdf
- ✓ Sanko (Tottori)
High Efficient Compost Producing Technology
(In Kerala)
https://www2.jica.go.jp/ja/priv_sme_partner/document/281/A143014_summary.pdf

■ Partnership with Japanese Private Companies

Awareness Improvement !

✓ Kodansha (Tokyo)

Publication of [picture-books](#) related to environment and hygiene awareness improvement and activities
“Reading Aloud Campaign”

‘Mottainai Grandma’

published in Hindi/English on 13 January 2018



■ Children Forest Programme (Uttar Pradesh)

Awareness Improvement !

- ✓ Sense of nurturing trees among children
- ✓ Awareness activities, including environmental education
- ✓ over 1,000 schools in Uttar Pradesh involved
- ✓ Teachers, parent and others in the community also join
in making mini-forests



5. Key Message

Clues to Environmental Law Compliance based on JICA's experience

- *Identification* : It is critical to specify and prove noncompliance of polluter based on the accurate monitoring.
- *“Stick” and “Carrot”* : Comprehensive approach, such as capacity development, regulatory management and technical guidance with financial support is effective for polluter's compliance.
- *Participatory Approach* : Involvement of civil society and polluter jointly into establishment / enforcement of environment regulations and standards is productive. Top-down approach (enforcement of law) works well when Bottom-up approach (on-the-ground activity) is taken in parallel.
- *Awareness Improvement* : Mindset changing through environmental education, public campaign etc. is important as a foundation.

Thank you!

धन्यवाद



c.f. <http://www.jica.go.jp/india/english/office/about/message.html>
<http://www.jica.go.jp/india/english/office/others/brochures.html>

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