



172th EAAE SEMINAR

INTERNATIONAL EXPERIENCES WITH AGRI-ENVIRONMENTAL POLICY DESIGN AND APPLICATION – SOUTH ASIA

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OVERVIEW

- Asia's Outlook
- Agri-Environmental Policies in South Asia
- Policy Application – Our Experience & Way Forward





ASIAN DEVELOPMENT BANK (ADB)

Headquarters Manila, Philippines

Founded 1966

Member economies 68

2018 Loan Commitment

\$21.6 billion in 2018

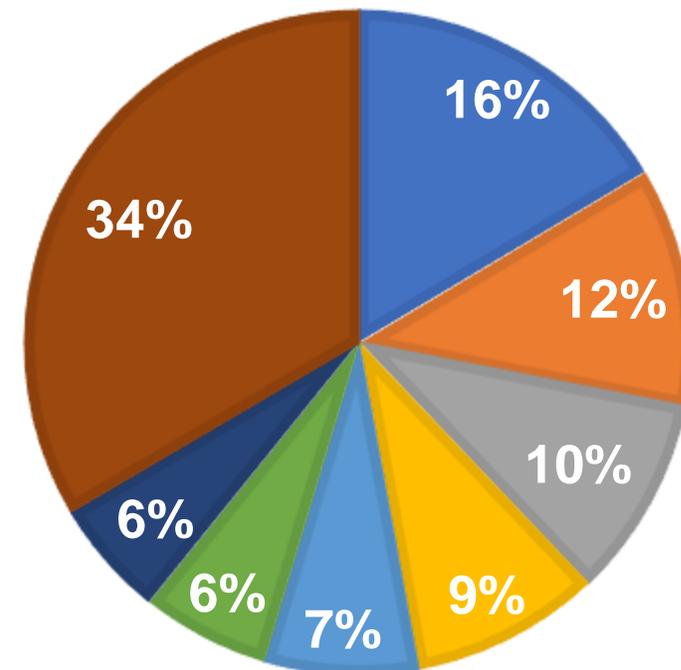
(excluding Technical Assistance & cofinancing)

Top clients: India, Bangladesh, China, Indonesia, Philippines

Staff 3,374 (international staff 1,242)

BY COUNTRY 2018

- India
- Bangladesh
- China
- Indonesia
- Philippines
- Uzbekistan
- Pakistan
- Others





ASIA'S OVERVIEW (2018)

| | Population (million) | GDP (\$ billion) | Per capita GDP (\$) |
|-------------------|-------------------------|---------------------|------------------------|
| China | 1,392.7 | 13,572 | 9,745 |
| India | 1,333.2 | 2,727 | 2,045 |
| Indonesia | 265.0 | 1,042 | 3,932 |
| Pakistan | 207.7 | 312 | 1,505 |
| Bangladesh | 163.7 | 274 | 1,675 |
| Philippines | 106.6 | 331 | 3,104 |
| Viet Nam | 94.5 | 231 | 2,440 |
| Thailand | 66.4 | 505 | 7,603 |
| Myanmar | 53.9 | 73 | 1,352 |
| Republic of Korea | 51.6 | 1,619 | 31,362 |
| Singapore | 5.6 | 361 | 64,042 |

Advanced economies

| | | | |
|----------------|-------|--------|--------|
| Japan | 126.4 | 5,071 | 40,106 |
| Australia | 25.2 | 1,428 | 56,698 |
| United States | 328.1 | 20,513 | 62,518 |
| Germany | 82.8 | 4,029 | 48,670 |
| France | 65.1 | 2,795 | 42,931 |
| United Kingdom | 66.5 | 2,809 | 42,261 |

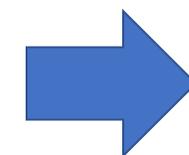
Source: *Asian Development Outlook 2019* database and *World Economic Outlook, October 2018* database for advanced economies



ASIA'S ECONOMIC GROWTH (%)

| | 2018 | 2019 (forecast) | 2020 (forecast) |
|-------------------|------------|--------------------|--------------------|
| Developing Asia | 5.9 | 5.7 | 5.6 |
| China | 6.6 | 6.3 | 6.1 |
| Bangladesh | 7.9 | 8.0 | 8.0 |
| India | 7.0 | 7.2 | 7.3 |
| Nepal | 6.3 | 6.2 | 6.3 |
| Sri Lanka | 3.2 | 3.6 | 3.8 |
| Pakistan | 5.2 | 3.9 | 3.6 |
| Indonesia | 5.2 | 5.2 | 5.3 |
| Philippines | 6.2 | 6.4 | 6.4 |
| Viet Nam | 7.1 | 6.8 | 6.7 |
| Thailand | 4.1 | 3.9 | 3.7 |
| Myanmar | 6.2 | 6.6 | 6.8 |
| Republic of Korea | 2.7 | 2.5 | 2.5 |
| Singapore | 3.2 | 2.6 | 2.6 |

Agriculture Sector contribution to GDP remains significant



| | 2017(%) |
|-------------------|---------|
| Bangladesh | 14.2 |
| India | 17.2 |
| Nepal | 28.8 |
| Sri Lanka | 8.6 |
| Pakistan | 24.4 |

Source: Asian Development
Outlook 2019, April 2019



POVERTY IN ASIA

| | Population (million) (% of world population)* | \$1.9/day (2011 PPP) | | | \$3.2/day (2011 PPP) | | |
|-------------|--------------------------------------------------------|-----------------------------|------------------------|---------------------------------------------|-----------------------------|------------------------|---------------------------------------------|
| | | No. of Poor (million) | Poverty Rate (%) | Share of Developing World Poor (%) | No. of Poor (million) | Poverty Rate (%) | Share of Developing World Poor (%) |
| 1990 | 2759 (52%) | 1,507 | 54.6 | 79.7 | 2,274 | 82.4 | 78.2 |
| 1999 | 3172 (53%) | 1,231 | 38.8 | 71.4 | 2,241 | 70.6 | 73.5 |
| 2005 | 3417 (52%) | 875 | 25.6 | 65.0 | 1,942 | 56.8 | 70.7 |
| 2011 | 3644 (52%) | 497 | 13.6 | 52.0 | 1,495 | 41.0 | 65.3 |
| 2013 | 3718 (52%) | 348 | 9.4 | 43.6 | 1,267 | 34.1 | 61.4 |
| 2015 | 3791 (52%) | 264 | 7.0 | 36.2 | 1,100 | 29.0 | 57.2 |

Notes: Refers to 34 developing member countries: Armenia, Azerbaijan, Bangladesh, Bhutan, People's Republic of China, Fiji, Georgia, India, Indonesia, Kazakhstan, Kiribati, Kyrgyz Republic, Lao People's Democratic Republic, Malaysia, Maldives, Federated States of Micronesia, Mongolia, Myanmar, Nepal, Pakistan, Papua New Guinea, Philippines, Samoa, Solomon Islands, Sri Lanka, Tajikistan, Thailand, Timor-Leste, Tonga, Turkmenistan, Tuvalu, Uzbekistan, Vanuatu, and Viet Nam. For 1990, data are only available for 33 DMCs as data for Maldives are not available.

*Ratio of ADB DMCs population to the world population, which totaled 5,285 million in 1990; 6,038 million in 1999; 6,517 million in 2005; 7,013 million in 2011; 7,183 in 2013; 7,355 in 2015.

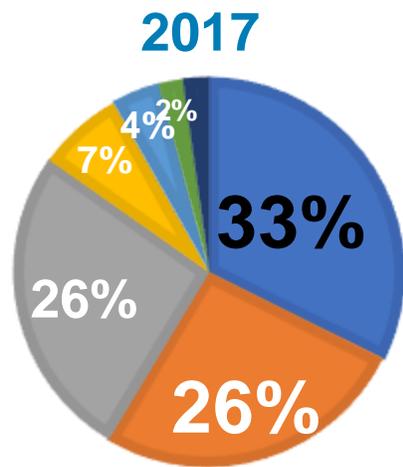
Source: ADB estimates based on World Bank's PovcalNet data (downloaded September 24, 2018).



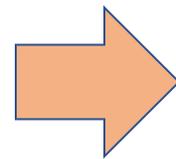
ASIAN CENTURY SCENARIO

(Global GDP Composition)

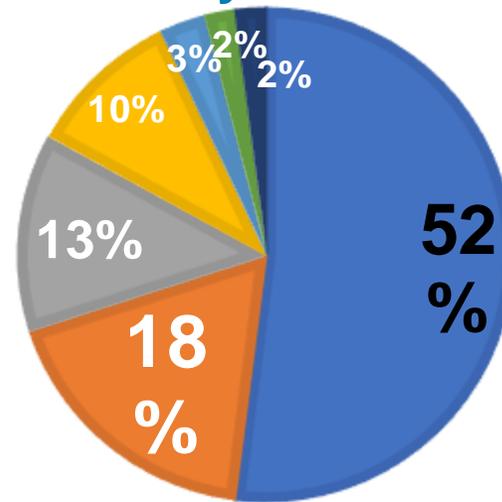
- Asia
- Europe
- North America
- Latin America & Caribbean
- Middle East & North Africa
- Sub Saharan Africa



Asia's GDP: \$26 trillion (market FX rate)
 Asia's per capita GDP: \$6,272 (market FX rate)
 Asia's population: 4.16 billion (55%)
 World population: 7.53 billion



'Asian Century' Scenario(2050)



Asia's GDP: \$174 trillion (market FX rate)
 Asia's per capita GDP: \$36,665 (market FX rate)
 Asia's population: 4.76 billion (52%)
 World population: 9.15 billion

Population continue to grow & middle class expands
 (= need more water & food)



Region more frequently hit by climate related disasters
 (= lack of secure land)



Competition for safe land and water intensifies



Critical Importance of Agri-Environmental Policies

Sources:
Asia 2050: Realizing the Asian Century, a 2011 study commissioned by ADB.
 World Bank, World Development Indicators





2. AGRI-ENVIRONMENTAL POLICIES IN SOUTH ASIA

‘Agri-Environmental Policies’ not common

- **Country’s Economic Priority**

- Dominantly agriculture (Agriculture’s contribution to GDP from 15-30%, 70 percent of its rural households still depend primarily on **agriculture** for their livelihood, with 82 percent of farmers being small and marginal)
- Country’s priority was to feed its growing population, hence, increase in production. No incentive structure for ‘conservation’. Lack of capacity & equipment remain problem.

- **Institutional Structure**

- Ministries tend to work in silos. Agriculture policies (e.g. National Agriculture Policy, Pesticide Act, etc.) are handled by Ministry of Agriculture.
- Also policy application differs among different states and at local level. For example, India, central government prepares Act and Model policies, and state government will prepare and adopt state level policies.

- **Project-based Application of Environmental Policies**

Depending on project’s impacts on environment, initial environmental examination (IEE) or environmental impact assessment (EIA) including environmental management plan will be prepared and approved by central government.



2. AGRI-ENVIRONMENTAL POLICIES IN SOUTH ASIA

Case of India

Country Laws and Policies

- Environment Protection Act (1986)
(not to allow emission or discharge of environmental pollutant in excess of standards, persons handling hazardous substances to comply with procedural safeguards)
- Food Adulteration Act (1954)
(prevention of adulteration of food, established role of food inspectors)
- Destructive Insects and Pests Act (1914)
(prevention of importing/transporting any articles likely to cause infection to any crop or of insects)



Reality

Laws are old and there are issues of adoption by States and enforcement (e.g. self declaration, auto-renewal). Governments provide subsidies on fertilizer and seedlings that are generally provided through middlemen.



3. AGRY-ENVIRONMENTAL POLICY APPLICATION

Development Partners apply their Policies

ADB's Safeguard Policy Statement (2009)

- Avoid pollution, or, when avoidance is not possible, minimize or control the intensity or load of pollutant emissions and discharges, including direct and indirect greenhouse gases emissions, waste generation, and release of hazardous materials from their production, transportation, handling, and storage.
- Avoid the use of hazardous materials subject to international bans or phaseouts.
- Purchase, use, and manage pesticides based on integrated pest management approaches and reduce reliance on synthetic chemical pesticides.

Sector Checklist (Agriculture Project's Environmental Impact Assessment)

- ✓ Project location (cultural heritage, protected area, wetland, national park etc.)
- ✓ Loss of ecological value & decreased biodiversity
- ✓ Impact of technology on social & economic activities,
- ✓ Community health and safety hazards due to the transport, storage and/or disposal of materials such as explosives, fuel, pesticide and other chemicals
- ✓ Impact of infrastructure (soil erosion & pollution during construction, dust, soil nutrients due to water application, downstream water quality etc.)



3. AGRI-ENVIRONMENTAL POLICY APPLICATION

Chattisgarh Irrigation Development Project

Project

Rehabilitate 20 medium and 200 minor irrigation schemes, averaging 5,000 ha and 500 ha. (= total 200,000 ha, equivalent to State's 15% of the overall irrigated area)

Situation & Measures

- Prior to the Project, flow of water affected soil health hence loss of nutrients → installation of irrigation.
- Farmers applied fertilizers and chemicals without testing soil conditions → soil testing was introduced.
- No loss of natural and cultural resources was expected → capacity building was included to strengthen monitoring.

Outcomes

No adverse environmental impact (soil erosion, noise, loss) was reported.





3. AGRI-ENVIRONMENTAL POLICY APPLICATION

Way Forward

Lessons learned

Project based application may not effectively improve country's overall policy.



Policy Based Lending in Nepal (\$50 million loan project, 2019)

- \$25M: Introduction of Policy Measures on improving 'Food Safety and Quality' and \$25M: Adoption by policies by Provincial governments.
- Adoption of (i) Plant Protection Act (revision of 2007); and (ii) Pesticide Management Bill (Pesticide Act of 1991).
(Regulate import & export plant or plant products, and Regulate the production, import, export, storage, distribution and use of pesticide and control their adverse effects on human and animal health, and the environment)
- Importance of (i) establishment of Lab facilities; and (ii) capacity building.



3. AGRI-ENVIRONMENTAL POLICY APPLICATION

Change of ADB Policy: Strategy 2030 (2018)

Scaling-up targets for climate change mitigation and adaption by 2030

- At least **75% of the number of its committed operations** (3-year rolling average)
- **\$80 billion cumulative in climate finance** from ADB's own resources (2019-2030)

Supporting our DMCs Nationally Determined Contributions (NDCs)

- ADB's **Climate Change Operational Framework 2030** provides the broad direction and guidance for enhancing resilience and strengthening climate actions
- **NDC Advance:** Launch a program to enable DMCs to translate their NDCs into climate investment plans in line with multilateral frameworks such as the Paris Agreement and Sendai Framework for Disaster Risk Reduction

➡ **ADB's projects already changed** (from highways to metro/railways, from canal construction to solar pumps/pressurized irrigation, more flood and coastal protection etc.)



3. AGRI-ENVIRONMENTAL POLICY APPLICATION

Future Entry Point

Momentum to Address Climate Change

- Competition for **scarce resources** (water, land and food) & sea level rise recognized by the Government → Awareness of climate change is finally high, yet to be translated in policies.
- Greater interest in **high technology** (e.g. precision farming, drip irrigation) in the agriculture sector. → Developing countries can take advantage of technological advances.
- Gradual recognition of green development and **sustainable agriculture, particularly in Hill areas** and poorer regions. → Recent increase of projects on organic agriculture, sustainable forest management, and biodiversity conservation with use of indigenous knowledge (e.g. fallow cycles).



THANK YOU

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