

*Opportunities and Constraints in Bridging the
Boundaries between Government, Academia and
Industry in the Implementation of Low Carbon
Technologies*

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Government, Academia and Industry (GAI) in bringing Low Carbon measures - A well Recognized fact

A Ministry of Foreign Affairs of Japan report* highlights the following points for realizing Low Carbon Growth

1. Asia accounts for nearly 63% of Global Emission
2. Researchers should understand the local condition and provide knowledge to policy makers in both donor and recipient country
3. City to City cooperation is essential for realizing Low Carbon Measures
4. Utilization of effective technologies should be promoted
5. Global partnership among all stakeholders at local and national level including formation of networks between government, Industry and Academia at all levels.

**A Proposal for East Asia Low Carbon Growth- Partnership Dialogue, published by the Ministry of Foreign Affairs of Japan <http://www.mofa.go.jp/files/000118022.pdf>*

Yogyakarta waste management case study



Source: World Atlas



Source: Google maps

Challenges in Waste Management Sector



A scene at Bantul landfill (Yogyakarta) built using composite baseliners, equipped with adequate leachate collection, treatment facilities, and landfill gas management. In practice the landfill is operated as an open dump. 13 such Landfill sites were built in Indonesia by foreign governments under the Clean Development Mechanism (CDM) framework

Source: Environmental Agency, Yogyakarta city

Also see; Christia Meidiana and Thomas Gamse (2011), *The new Waste Law: Challenging opportunity for future landfill operation in Indonesia*. Waste Manag Res 29: 20-29,

Analysis

Intermediary Factors Influencing Waste Management in Yogyakarta

Technological: Lack of technology or lack of experts to operate the transferred technology



Political: Managed by multiple ministries*



Financial: Cost of maintenance of landfill



Cultural: Scavengers as unmanaged waste pickers



* Ministry of Public works and Ministry of Environment and Forests

Bogor City Transportation case study



Source: World Atlas



Source: Google maps

Challenges in transportation Sector



Source: Bogor City

Social and Environmental Challenges

1. Heavy traffic congestion
2. Increased carbon emission

Policy level problem in addressing the issue

1. Ankots are owned by individuals – they do not want to lose jobs and business
2. City Parliamentarians do not want to allocate more budget for mass transportation

Policy Problems Overrules Science & Technological innovation

- 29 buses and 7000 Ankots in Bogor
- 3000 Ankots operating in the district and 4000 operating in the city



Source: Bogor City

Analysis

Intermediary Factors Influencing Transport Management in Bogor

Technological: Poor
Transport Infrastructure



Political:
Parliamentarians fear
of not able to sustain a
mass transport system



Financial: Ankot owners
fear of losing their
business

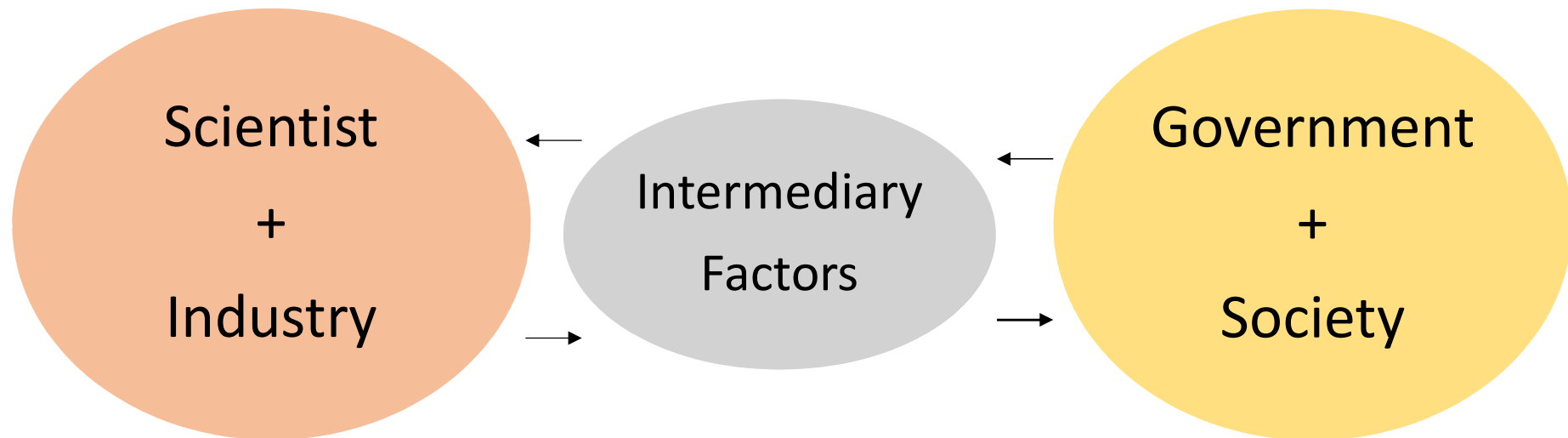


Cultural: Cost overweighs
comfort for citizens



Analysis

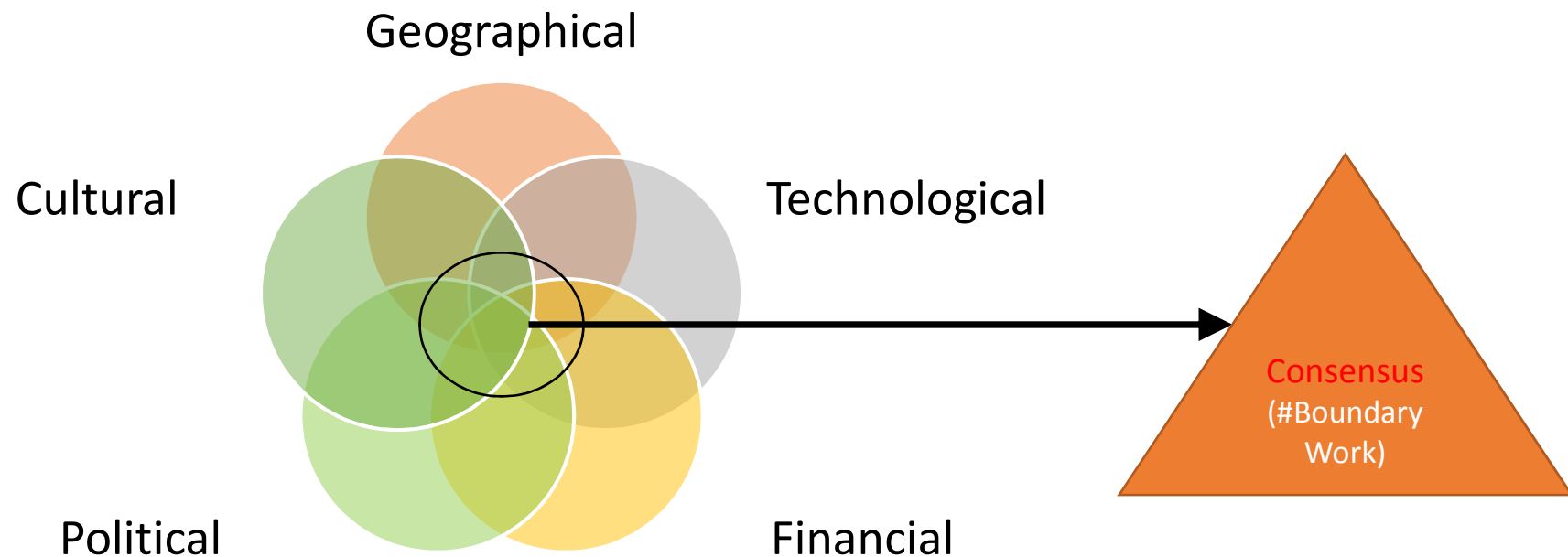
Factors Influencing Adoption of LCS



It is important to consider the intermediary factors influencing a policy process before advocating technologies

Analysis

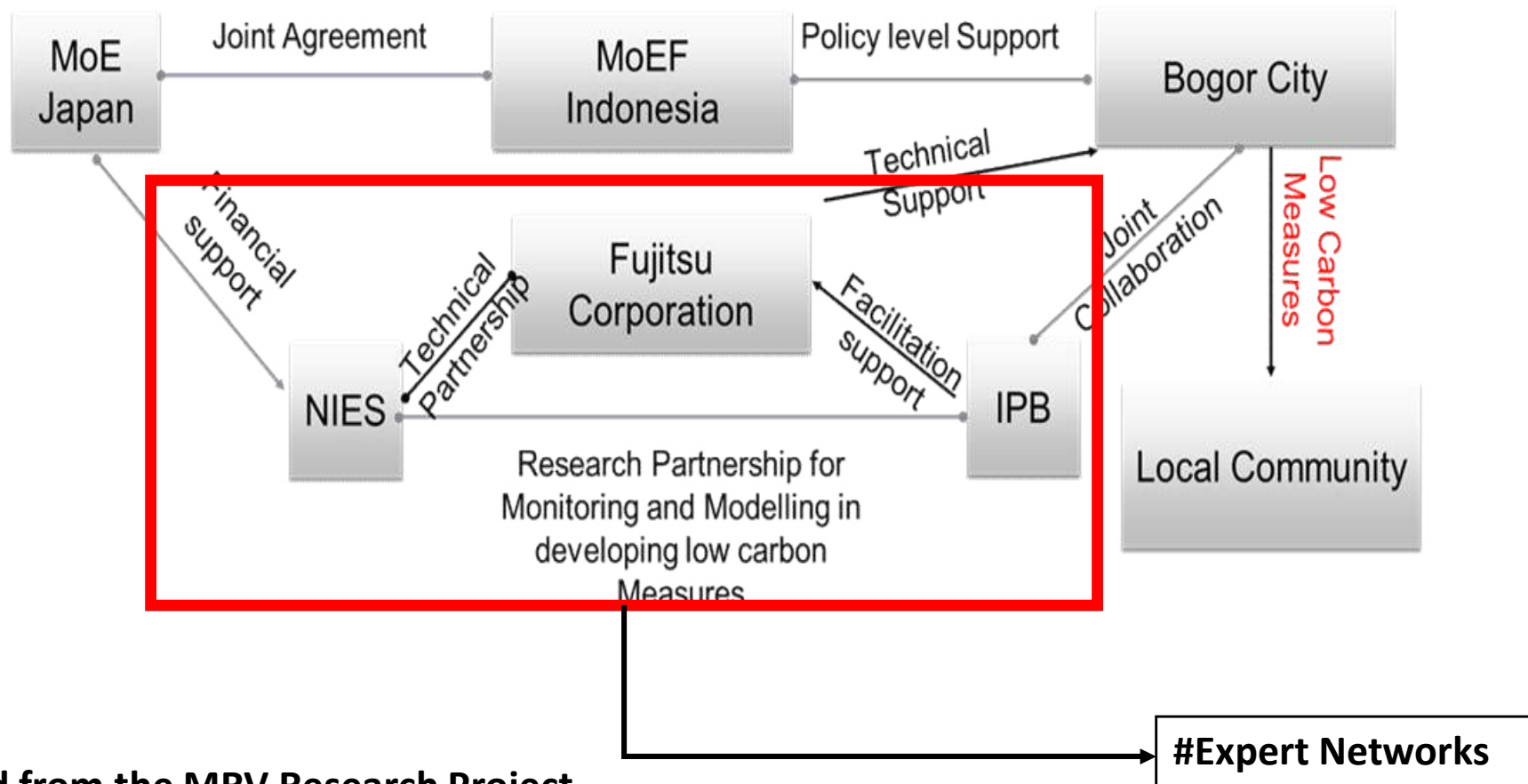
Bridging Intermediary Factors for Consensus



Boundary work is the process of constructing and managing effectively the interfaces among various stakeholders engaged in harnessing knowledge to promote action

*#William C. Clark, Thomas P. Tomich, Meine van Noordwijk, David Guston, Delia Catacutan, Nancy M. Dickson, and Elizabeth McNie
Boundary work for sustainable development: Natural resource management at the Consultative Group on International Agricultural Research (CGIAR), PNAS 2011 ; published ahead of print August 15, 2011, doi:10.1073/pnas.0900231108*

Expert Networks as a frame for strengthening Government- Academia- Industry Collaboration



Adapted from the MRV Research Project of Center for Social and Environmental Systems Research at NIES

#The term “expert” includes policy analysts, scientists, consultants, industrial engineers and researchers in government and non-government organizations (Weible et al., 2010) who play a pivotal role in the implementation of technology and policy

Expert Networks and Joint Forum for bridging consensus and collaboration between Government Academia and Industry



Source: NIES

Forum on Eco-City Bogor was participated by experts constituting of Governments, Research institutions, industry and civil society from Japan and Indonesia (from National, regional and local level). The forum was open to local people to address their views.