

Addressing Climate Change through Agriculture: Policy and Institutional Opportunities and Challenges

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Outline

- Introduction
- What Drives Climate Change Action?
- Case Studies of Bangladesh, Ghana, India, and Vietnam?
- What lessons of policy making process?
- The way forward?

Introduction

- Climate Change Action at the national level
- Implications for national policy making?
- What drives policy and institutional changes?
- How to study these drivers?
- Use a case study approach to track changes?
- What lessons for strengthening policy systems and institutional architecture?
- Concluding thoughts

Climate Change Implications of National Policy making

- SDGs related to Climate Change
- Global and Regional and National Framework for policy making and implementation.
- What drives the policy process in developing countries?

- What drives the sectoral policies and programs?

- How can we improve the policy process and institutional architecture for climate change action?

Priority actions - what does the Evidence Show?

- Agricultural Sector and food systems implications
- Disruptions in Technology innovation and productivity
- Farming affected by and affects climate change
- 35 -40 percent of land use – for agriculture
- ecosystem change due to land and water use change in agriculture
- National and regional ecosystem changes induces challenges for the food systems
- Organizational weaknesses of research and extension
- Business ecosystems – badly needed for the entrepreneurship in agriculture.
- Employment opportunities for the New cadre of the agricultural business graduates
- High level of competition in the value chains benefiting farmers

What problems to solve?

- Increasing Food miles
- Conventional food production'
- Deforestation – burning forest for agricultural land
- Land clearing for cattle production
- Production of cattle - cattle feed demand
- Palm oil production – land cleared as well
- Methane from animal agriculture and rice production

- Using fertilizer chemical – high levels use – release into nitrous oxide
- Water pollution of nitrogen

- Post harvest losses
- Food waste and management

What solutions in Agriculture sector

- Sources of GHG in agriculture
- Agriculture contributes to 24% of the GHG

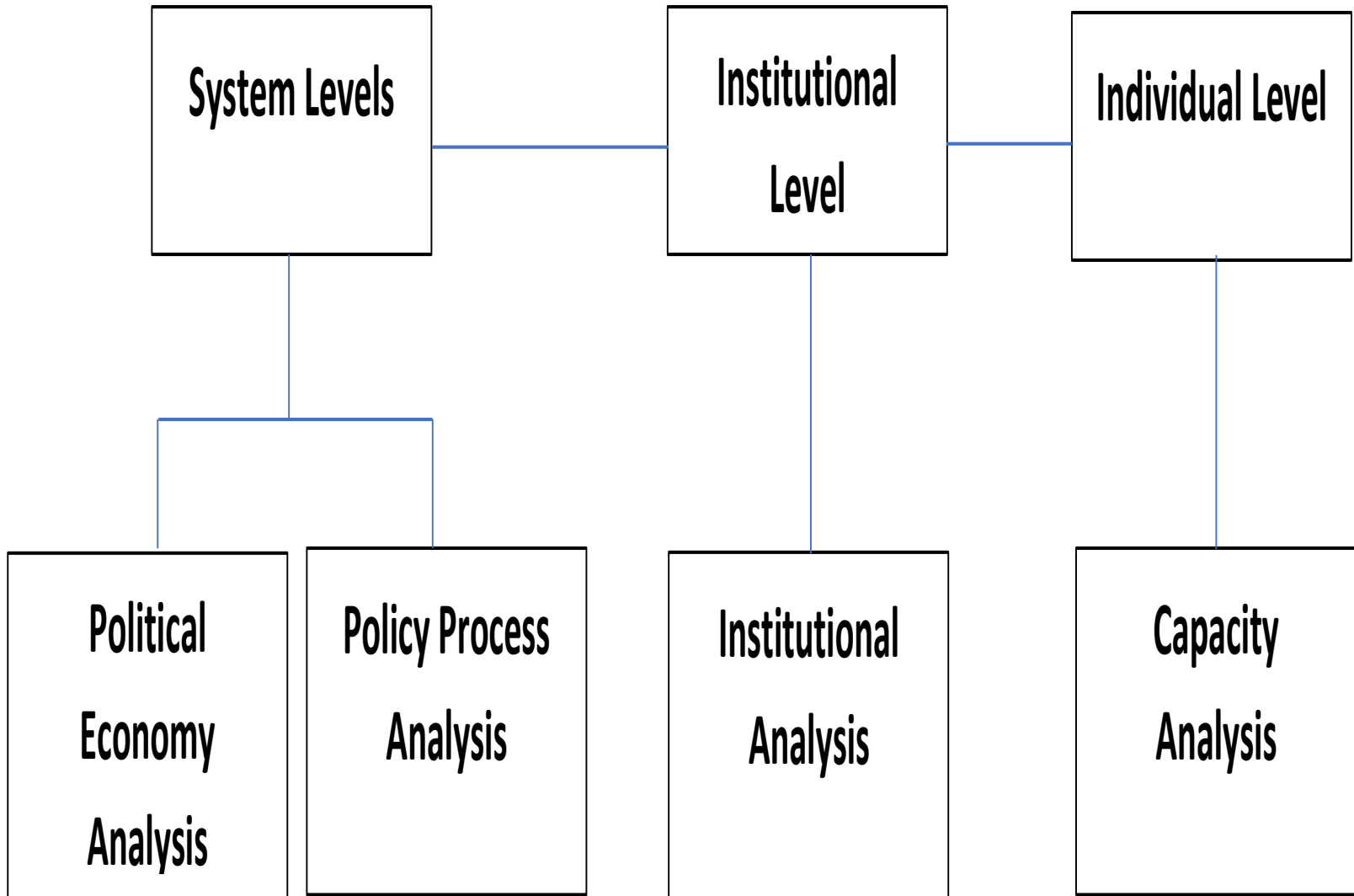
- What are the sink opportunities
- Climate smart agriculture
 - Land use management
 - Fertilizer use management
 - Irrigation and water use management
 - Soil protection and conservation
 - Collectively make agriculture climate smart
 - Food systems transformation

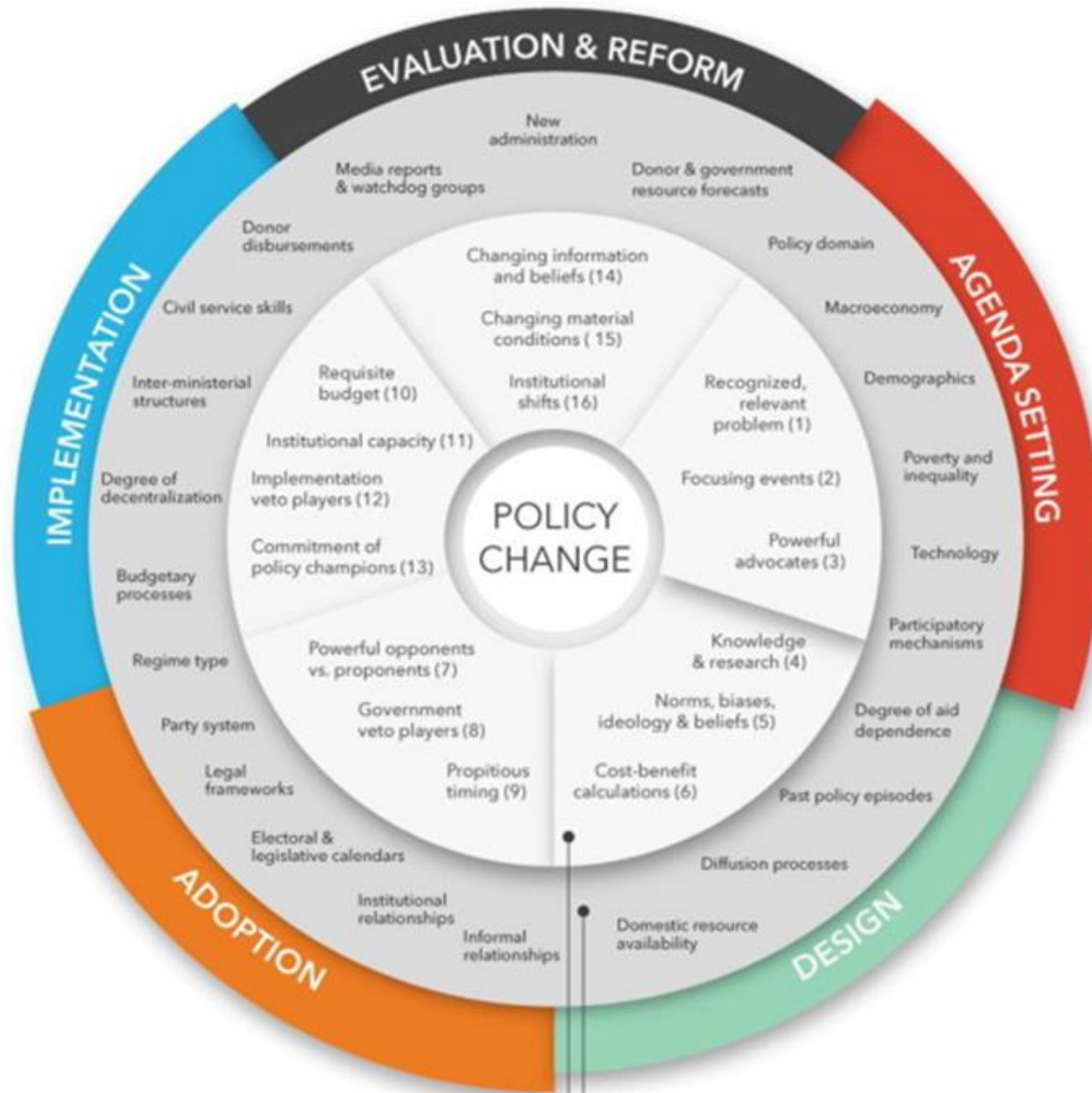
Food and ecosystem mangement

- **Improvement at the farm level?**
 - Cover crops – soil and water managements
 - Precision agriculture – fertilizer management
 - Regenerative agriculture
 - Reduce emissions

- **Create new carbon sinks of Co2**
 - Change the diets
 - Protected ecosystem
 - Forest – afforestation
 - What is happening on the farms?

Figure 3: Set of Analytical Tools for CSA

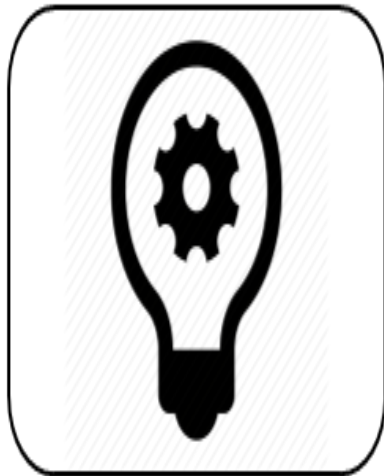




|| Illustrative Contextual Conditions

|| Key Determinants of Policy Change

Key drivers?



CSA Policy formulation
and strategy
development/Political
Economy



CSA
Governance/Institutional
development



Information
Monitoring systems
and Knowledge
Management



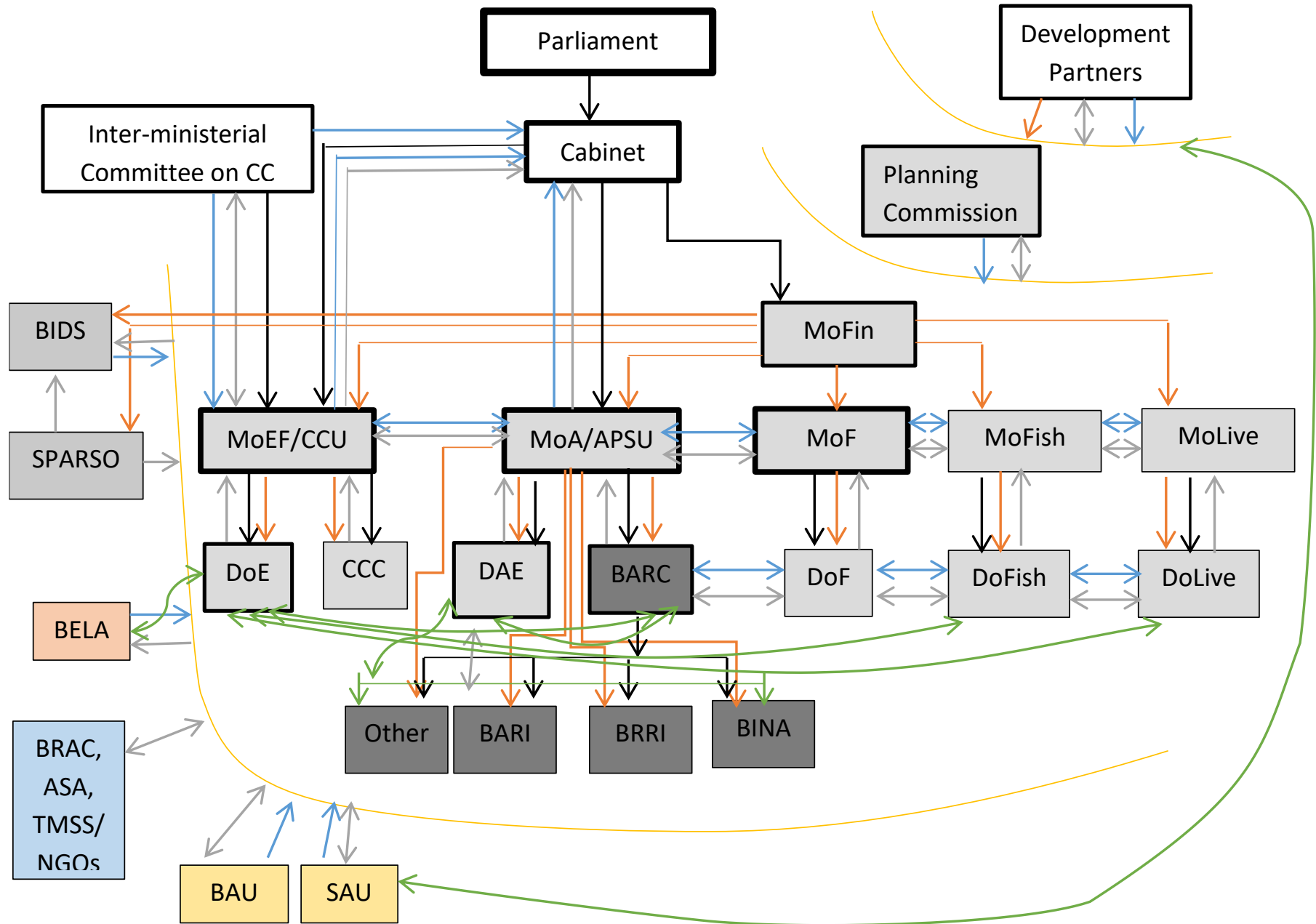
Technology and
innovation for CSA



Table 1. List of organizations working on CSA in Bangladesh

Type of Organizations	Selected Organizations
a. Government Entities	Ministry of Agriculture, Department of Agriculture Extension, Ministry of Environment and Forests, Department of Environment, Climate Change Cell, Ministry of Finance, Food Planning and Monitoring Unit, Ministry of Fisheries and Livestock
b. Public Sector Organizations	Bangladesh Agriculture Development Cooperation (BADC)
c. Government Research Organizations	Bangladesh Agriculture Research Council (BARC), Bangladesh Agriculture Research Institute (BARI), Bangladesh Rice Research Institute (BRRI), Bangladesh Institute of Nuclear Agriculture (BINA), Bangladesh Institute of Development Studies (BIDS)
d. Private Research Organizations	Bangladesh Centre for Advanced Studies (BCAS), Center for Natural Resources Studies (CNRS)
e. Universities and Colleges	Bangladesh Agricultural University (BAU), Sher-e-Bangla Agricultural University (SAU)
f. Non-Government Organizations	BRAC, ASA, Bangladesh Environmental Lawyers Association (BELA), Thengamara Mohila Sabuj Sangha (TMSS)
g. Other	Transparency International Bangladesh (TIB), Forum of Environmental Journalists of Bangladesh (FEJB)

Figure 1. Policy Process for Climate Smart Agriculture in Bangladesh



	Bangladesh	Ghana	India	Vietnam
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Systems Level

Satisfactory systems level capacity but exist in fragments. Need improved coordination among government ministries. Bangladesh requires investment to improve technology and innovation.

Lacks required systems level capacity for CSA implementation. Corruption and lack of government accountability persist. Funding and lack of ease of information remain a challenge.

Despite signs, inconsistencies among stakeholders and government remain. Endorsing CSA from national level would be a key. Allocation of budget for CSA needs increasing.

The government seems to have a will; however, corruption and limited innovation are holding Vietnam back. Increase in research and efforts to incorporate research into policies from national level would boost Vietnam's CSA goals.

Individual/Capacity

Individual involvement in CSA activities is limited. To address the deficiency of technical capacity, Bangladesh needs to significantly invest in state-of-the-art technology and innovations. CSA focused trainings on improving research skills and leadership management would benefit Bangladesh.

Work needs to be done to make the policy process comprehensive and inclusive involving smallholders and relevant individuals. Technology and information availability to build individual capacity would accelerate CSA mission. Ghanaian individuals would benefit from CSA workshops and training.

Needs significant investment in individual capacity development. Innovation and willingness to adopt CSA need to improve for better results. Being a large country, India needs state-specific individual capacity development programs that would help address existing capacity gaps.

Individuals' involvement in CSA monitoring activities needs to improve. Individuals not perceiving participation at CSA activities beneficial shows Vietnam needs to improve with ease and access to information. More workshops on CSA could improve enthusiastic individuals' participation.

What Drives Climate Change Action?

- At the policy making level:
- Translating the global and regional framework into national priority
- Translating evidence into action – policy and scientific research
- Coordinating the multiple sectors in a country
- Capacity to generate evidence – context and locality specific
- Stakeholder consultations –at the national and local levels
- Design and implementation of policies and programs
- Institutional architecture
- Funding and investment
- Mutual accountability of actors and players

Way Forward

- Debate and dialogue are fine – but action needed
- Academics complain – there is uncertainty – no data to learn
- Learning by doing is the option
- Move forward with what we have – build on it
- Policy is not a static concept – needs to be dynamic
- Even laws should be amended to meet the changing needs
- State governments should innovate?
- Develop case studies for learning
- Strengthen policy, institutional, and innovation systems to meet the CSA challenge

■ **Thank you - Q & A**