21st Asia-Pacific Seminar on Climate Change

CAMBODIAN TNA CURRENT STATUS

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Contents

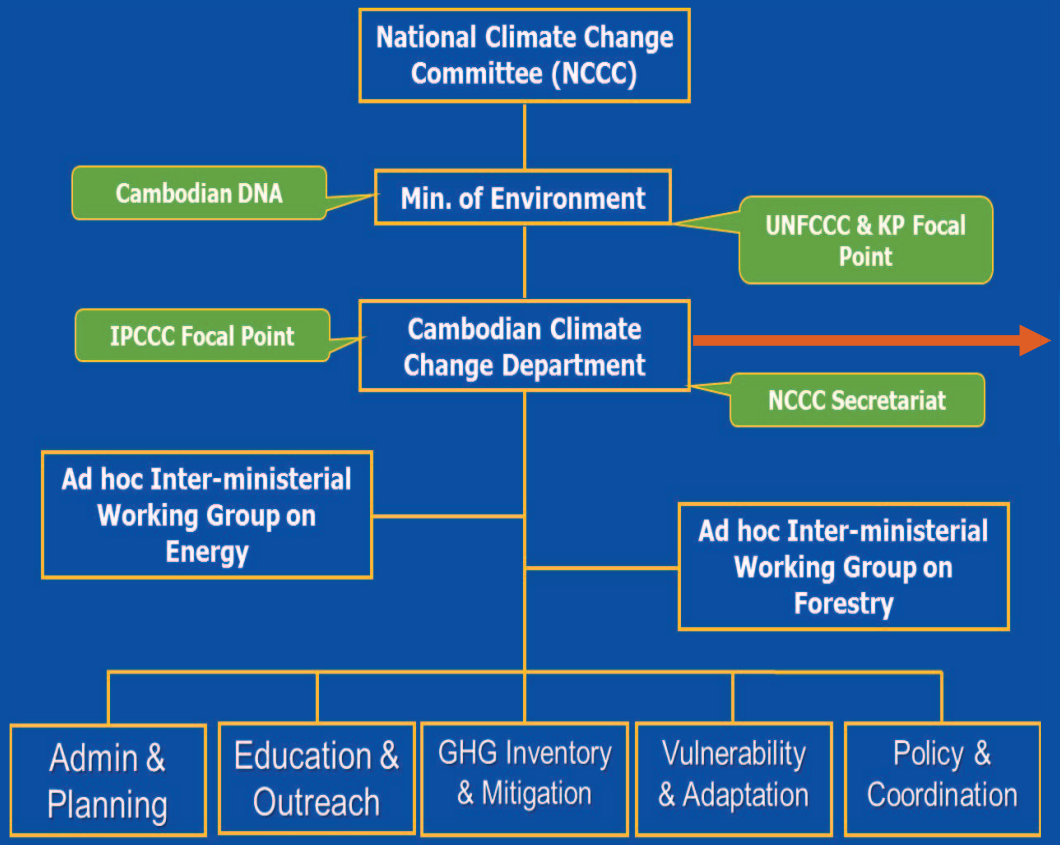
1. Background (1/3)

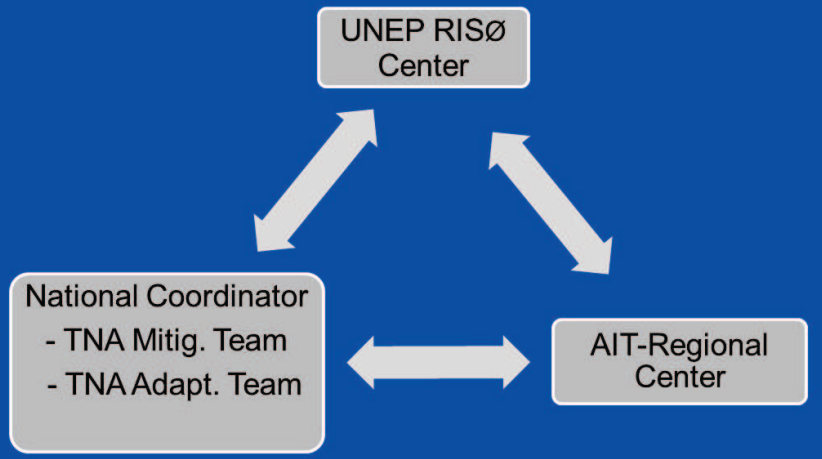
- **Cambodia start implementing TNA activities in Sept. 2010**
- **Cambodia uses its existing climate change institutional**
- **structure to implement TNA project:**

  - The National Climate Change Committee (NCCC) serves as the National TNA Project Steering Committee
  - The Climate Change Department serves as the Project Coordinator
  - Selected members of the CDM Inter-ministerial Ad-hoc Working Groups are invited to join the National TNA Teams (mitigt. & adapt.)
  - The National TNA Teams are supported by national consultants/experts (Academic and research institute)

1. Background (2/3)

1. Getting Organized Management structure for TNA





TNA Coordination and Implement Structure

1. Background (3/3)

From regional Capacity Building to National Action

- The 1st Regional Workshop Sept 15-17, 2010
- The 2nd Regional Workshop Jan 18-21, 2011

➢ *The TNA Handbook, the Multi-Criteria Decision Analysis (MCDA) Techniques, Cost and Financial Model, Technology Fact sheet, Technology-Barrier Analysis, etc., were introduced.*

2. Priority sectors and sub-sectors for GHG mitigation

- Using key gov't documents i.e. The Cambodian MDGs, The Rectangular Strategy, The National Strategic Development Plan (NSDP), Sectoral Strategic Plans, National Adaptation Programme of Action (NAPA), Draft of Second National Communication (SNC), and other sources like ClimateTechWiki, etc. as main reference sources.

☞ A preliminary list of proposed adaptation and mitigation options/technologies has been developed.

2. Priority sectors and sub-sectors for GHG mitigation

Energy	Option/Technology
Energy Industries	▪ Grid Connection REEs, ▪ Grid Connection Auto Producers, ▪ Grid Connection Battery Charging Station, ▪ Solar Power Plant, and ▪ Solar Home System
Transport Sector	▪ Hybrid Cars, ▪ Motor Vehicle Inspection, ▪ Electric scooters and Bicycles, ▪ Public transport, etc.,
Rice cultivation	▪ Rice Milling Efficiency/Technology Change, ▪ Garment Industry Efficiency/Technology Change, ▪ Brick Works Efficiency/Technology Change

2. Priority sectors and sub-sectors for GHG mitigation

Non-Energy	Technology
Agriculture	
Rice cultivation	▪ Composting, ▪ Biogas effluent, ▪ Posphogypsum
Livestock	▪ Small Scale Biogas, ▪ Aquaculture/healthy diet
Agricultural soil management	▪ Organic input agriculture, ▪ Bio-Slurry, ▪ Crop Management
Land Use Change and Forestry	▪ Urban Cook stove, ▪ REDD+, ▪ Agro-forestry, ▪ Rural Cook stove

2.1 Priority sectors and sub-sectors for GHG mitigation

➢ Sector Rating Scheme

Sector	Economic Priorities	Social Priorities	Environmental Priorities	GHG Reduction Potential	Total Benefit
Energy	5	4	4	5	18
LUCF	4	4	5	4	17
Agriculture	5	4	4	3	16
Waste	3	3	4	4	14
Industrial processes	4	3	2	3	12
Solvent and other product use	3	2	2	2	9

Note: Rating Scheme: 0: no benefit, 1: faintly desirable, 2: fairly desirable, 3: moderately desirable, 4: very desirable, and 5: extremely desirable.

2.1 Priority sectors and sub-sectors for GHG mitigation

➢ Priority Technology in each sector

Sector	No.	Technologies	Score
Transport	1	Energy Efficient Urban Mass Transport	82
	2	Vehicle Emission Standards	80
	3	Electric Motorbikes and Bicycles	76
	4	Rail	72
	5	Biofuels	72
	6	Eco-Driving	72
	7	Traffic Management	72
	8	Transport Demand Management	70
	9	Modal Shift (Walking, Cycling)	70
	10	Road Improvement	70
	11	Urban Transport Master Plan	68
	12	Education Campaign on Transport and Climate Change	68
	13	Electric and Hybrid Vehicles	68
	14	Inland Water Transport	60

2.1 Priority sectors and sub-sectors for GHG mitigation

➢ Priority Technology in each sector

Sector	No.	Technologies	Score
Energy Efficiency	1	Energy Efficient Cook stoves	80
	2	Energy Efficient Lighting	78
	3	Energy Efficient Appliances	74
	4	Energy Efficient Brick Kilns	72
	5	Energy Efficiency Standards	72
	6	Awareness Raising and Education on Energy Efficiency	72
	7	Energy Efficiency Building Codes	70
	8	Passive Solar Building Design	70
	9	Energy Efficient Water Heating	68
	10	Building Energy Management Systems	68
	11	Energy Efficient Air Conditioning	66
	12	District Cooling	60

2.1 Priority sectors and sub-sectors for GHG mitigation

Fourteen technologies in transport and twelve technologies in energy efficiency, the following sets have been selected for the development of Technology Action Plans .

Energy	No.	Technologies
Transport	1	Energy Efficient Urban Mass Transport
	2	Vehicle Emission Standards
Energy Efficiency	1	Energy Efficient Lighting
	2	Energy Efficient Household Appliances

- **The draft of first part of TNA report on technology prioritization and selection has been completed.**

2.1 Priority sectors and sub-sectors for GHG mitigation

TNA for climate change mitigation technologies is undertaken in support of Cambodia's national sustainable development objectives, and complements Cambodian national policies and plans in mitigating and adapting to climate change.

Because of time and budgetary constraints, it is not possible for the TNA project to cover all of Cambodia's sources and sinks of greenhouse gases. Thus, the TNA project, mitigation section, aims to assess technology needs and develop technology action plans for priorities in *transport* and in *energy efficiency* .

Technological options are prioritised by the national stakeholders according to their respective costs and benefits, using a Multiple Criteria Analysis (MCA) framework. Benefits are further divided into four categories: reduction of vulnerability to climate change, economic, social and environmental benefits.

3. Where we are?

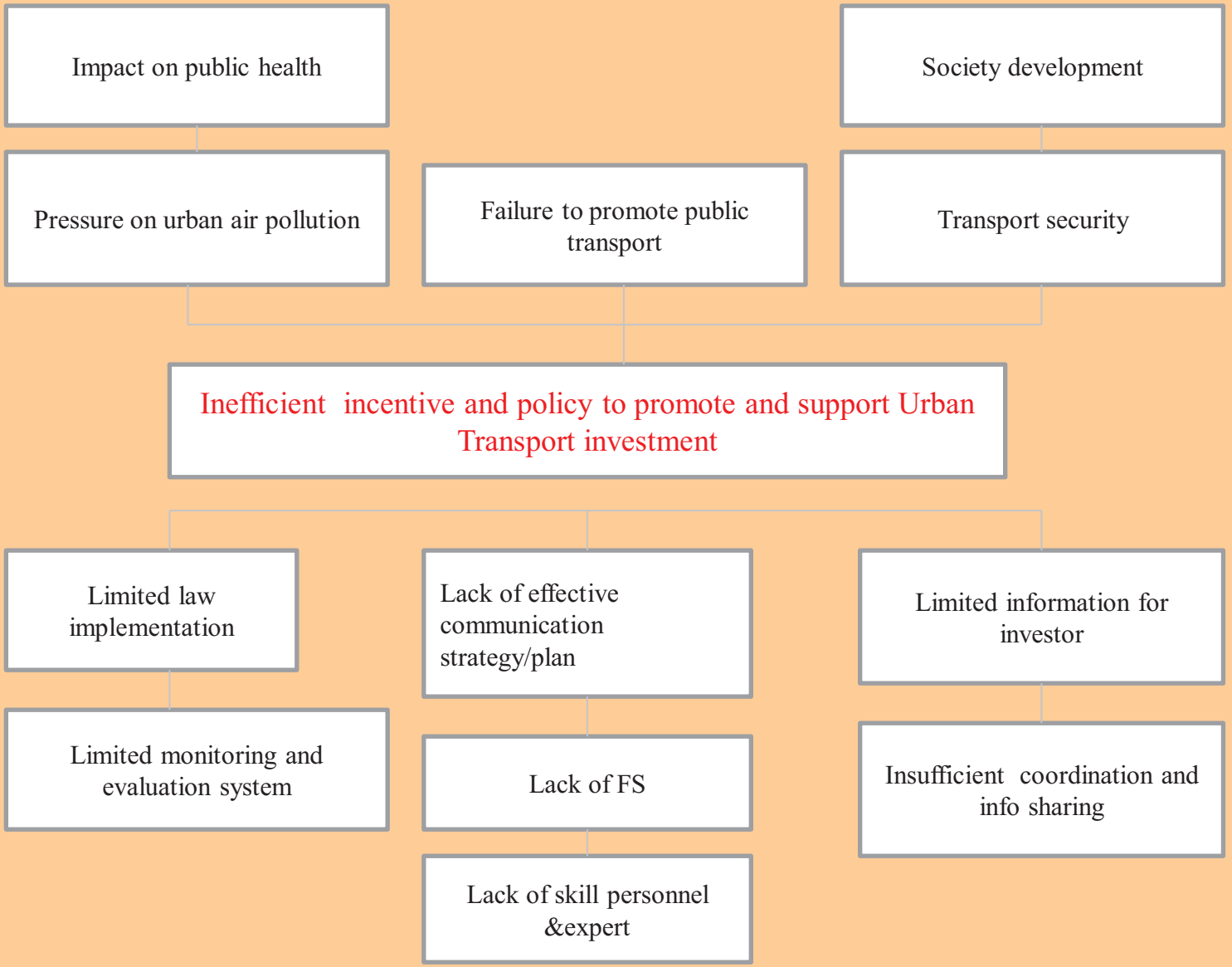
- **Preparation of Technology Action Plan (TAP) is under development…**

☞ ***National consultation was conducted with purpose of identifying barriers and solutions for all identified technologies. In addition, market mapping for some technologies were also developed .***

Example: problem tree analysis in Energy Efficient Urban Mass Transport

Problem – Causes - Effects

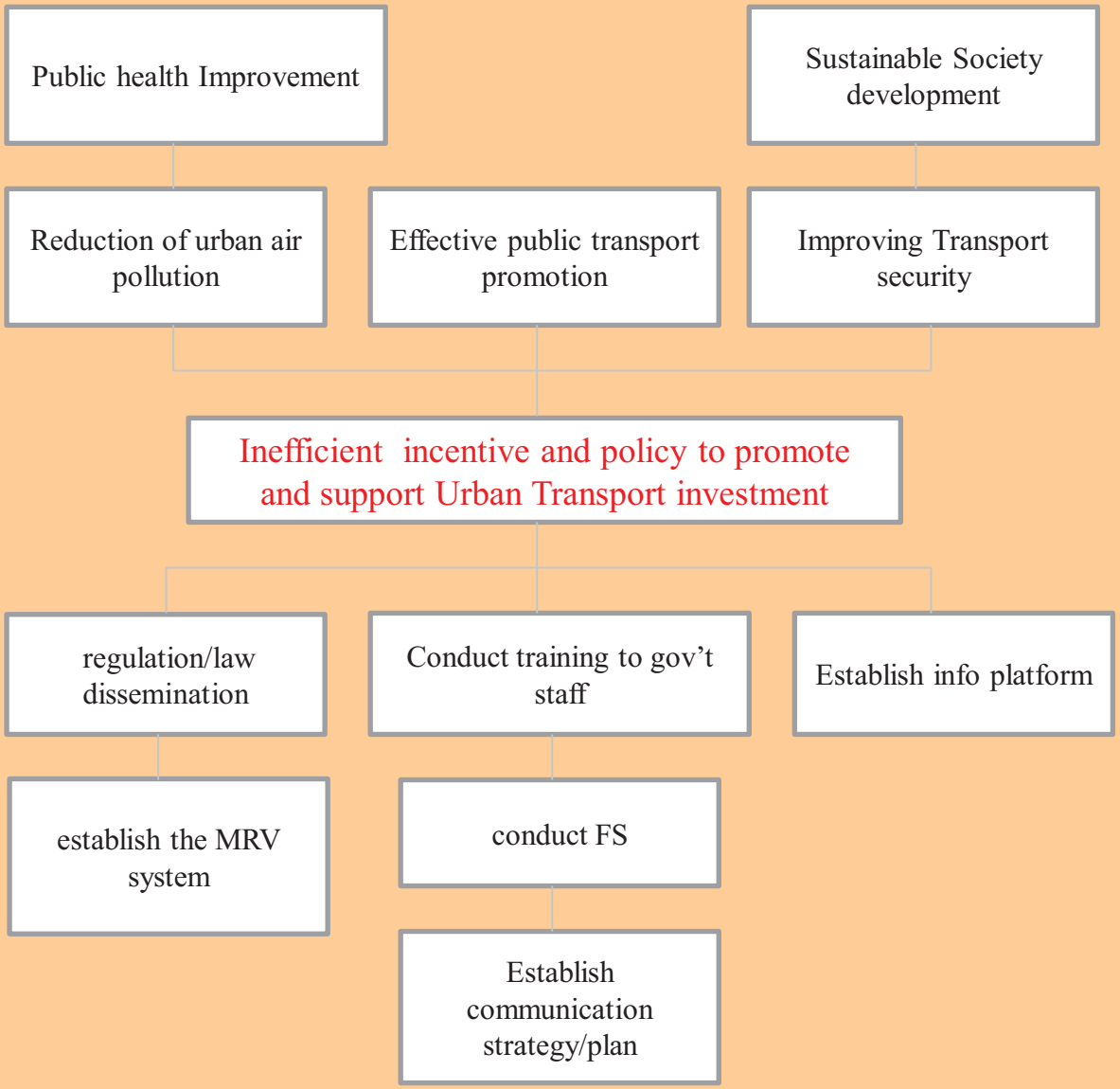
TAP Reporting



Example: problem tree analysis in Energy Efficient Urban Mass Transport

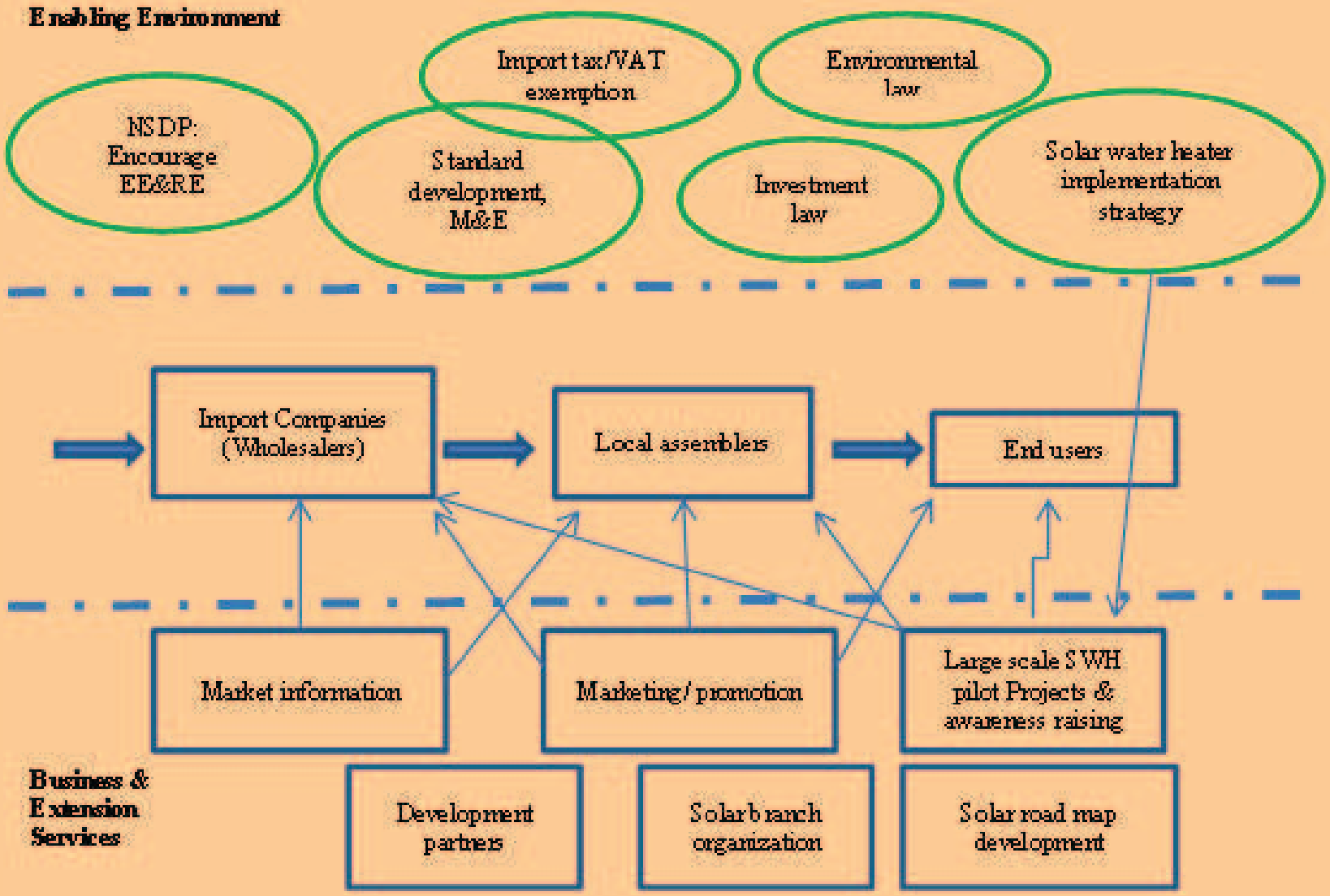
Measures - Results

TAP Reporting



Example: Market Mapping for EHA

TAP Reporting



4. Lessons learned

- The existing national climate change institution should be used to formulate and implement TNA preparation.
- SNCs is significant source of information on adaptation and mitigation options for TNA development
- MCDA model is important tool to help prioritizing potential technologies.
- Familiarizing the model and technology information with participants and local experts is very important step to explore ultimate inputs from stakeholders.
- Lacking of specific data/information would leads to delay of finalization of results.
- TNA shall be regularly updated in order to integrate more technologies, which will be useful for mitigation activities including NAMA.

Thank you very much

for your attention!