

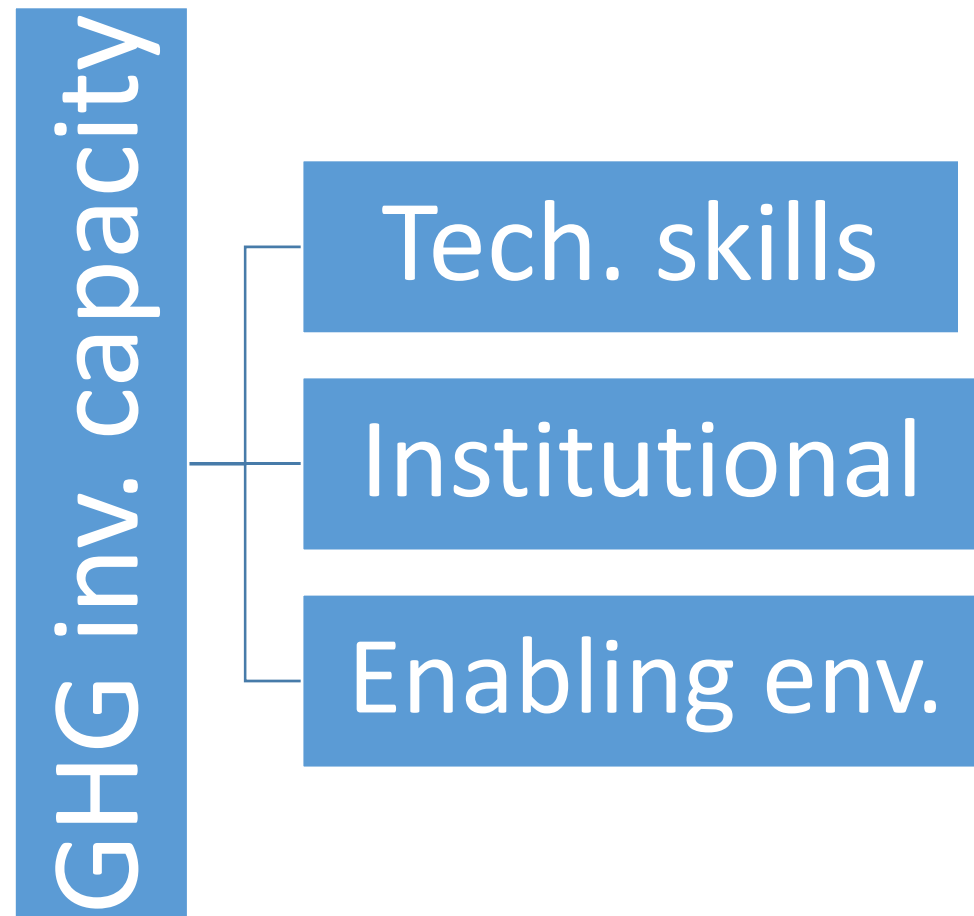
Talanoa dialogue for support providers in South and East Asia  
Istanbul, March 5-6th, 2019

# Review of GHG inventory capacity building projects in Viet Nam and Cambodia

Chisa Umemiya

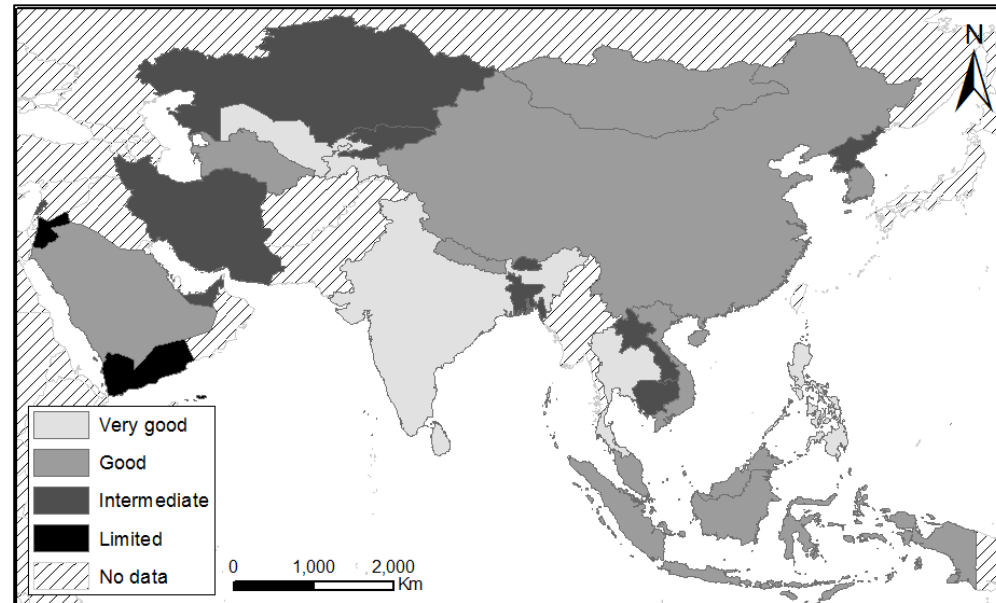
Institute for Global Environmental Strategies  
(IGES)

# GHG inventory capacity means

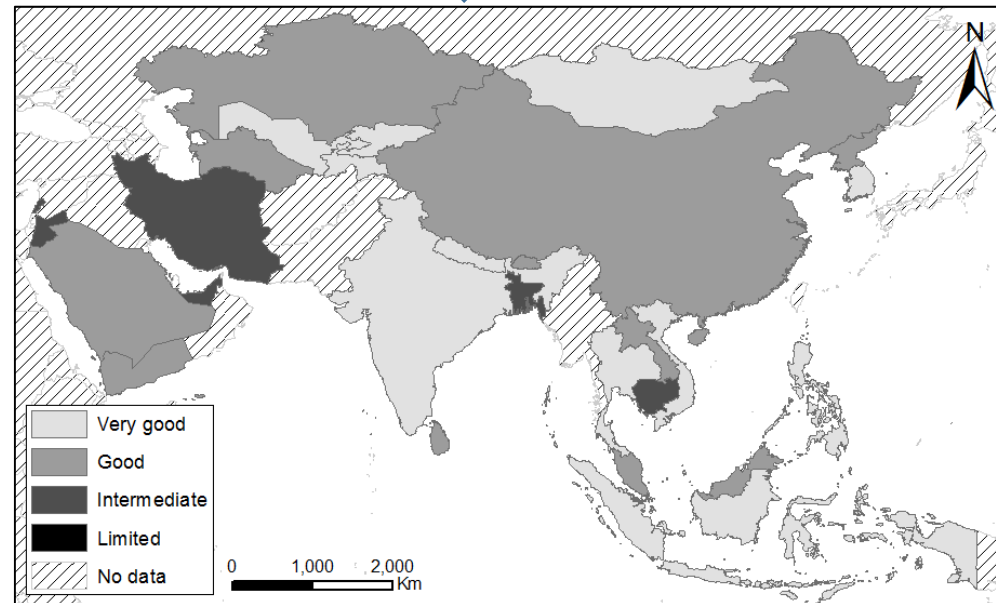


# GHG Inventory Capacity Status

NC1 (around 2000)



NC2 (around 2010)

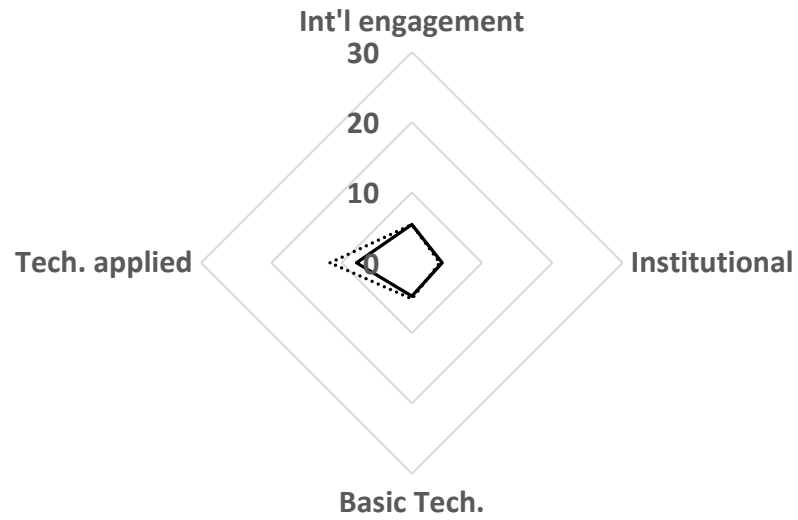


(Source: Umemiya et al., 2017)

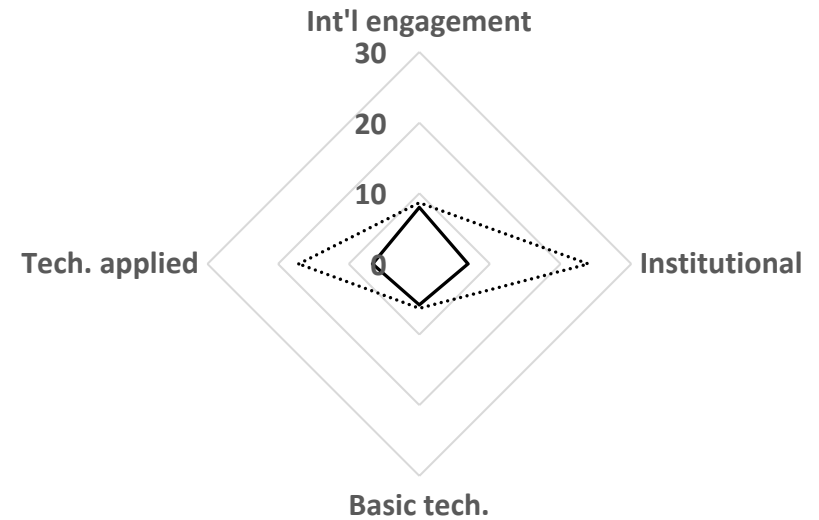
# GHG Inventory Capacity Indicators

(Weighting by experts)	(12.0)	(36.5)	(26.1)	(25.4)
	<b>(1) International engagement</b>	<b>(2) Institutional capacity</b>	<b>(3) Technical capacity available</b>	<b>(4) Technical capacity applied</b>
	<ul style="list-style-type: none"><li>• Timely response to GEF funding</li></ul>	<ul style="list-style-type: none"><li>• Coordination capacity</li><li>• Formal/Legal arrangements</li><li>• Continuous improvements</li><li>• Involvement of stakeholders</li><li>• Domestic financial resources available</li></ul>	<ul style="list-style-type: none"><li>• Understanding IPCC methods</li><li>• National scientific capacities</li><li>• National statistical capacities</li></ul>	<ul style="list-style-type: none"><li>• Transparency</li><li>• Accuracy</li><li>• Completeness</li><li>• Comparability</li><li>• Consistency</li></ul>

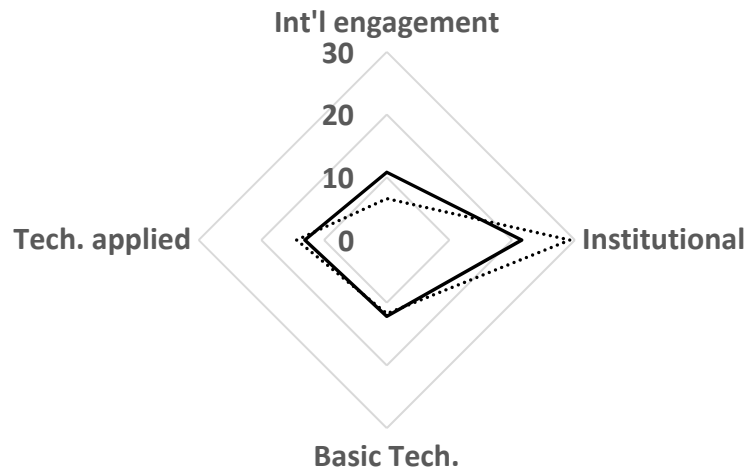
**Low improvement (n=11)**



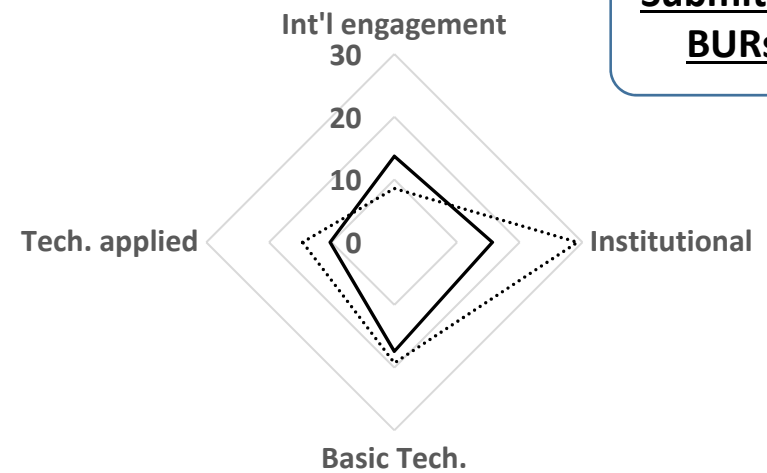
**Improvement growth (n=8)**



**High improvement growth (n=10)**



**Top runner (n=7)**



**Submitted**  
**BURs**

————— NC1

..... NC2

**Low improvement (n=11)**

Bahrain

Bangladesh ●

**Cambodia** ●

Cook Islands ●

Fiji ●

Iran (Islamic Republic of)

Jordan

Kiribati ●

Lebanon

Marshall Islands ●

United Arab Emirates

**High improvement growth (n=10)**

China

Mongolia

Nepal

Philippines

Saudi Arabia

Sri Lanka

Tajikistan

Tonga ●

Turkmenistan

Uzbekistan

**Improvement growth (n=8)**

Bhutan ●

Democratic People's Republic of Korea

Kazakhstan

Kyrgystan

Lao People's Democratic Republic ●

Micronesia (Federal States of) ●

Nauru ●

Samoa ●

**Top runner (n=7)**

India

Indonesia

Malaysia

Republic of Korea

Singapore

Thailand

**Vietnam**

● LDC

● SIDS

# 4-5 months to collect project documents

1. Document review (NC, BUR)
2. Web search
3. Contact organizations by e-mail
4. Checked by a government official of Viet Nam and Cambodia

# Viet Nam

ID	Project name	Implementing agency	Starting year	Data source
<b>Viet Nam</b>				
V1	Asia Least-Cost Greenhouse Gas Abatement Strategy (ALGAS)	UNDP and ADB	1994	GEF (1994); ADB, GEF and UNDP (1998)
V2	Vietnam: Preparation of initial national communication related to the UN Framework Convention on Climate Change	UNEP	1999	Mori (2003), GEF (n.d.)
V3	Viet Nam: Preparation of Second National Communication under the UNFCCC	UNEP	2006	UNEP (2006)
V4	Project for Capacity Building for National Greenhouse Gas Inventory	JICA	2010	JICA (2010, 2014)
V5(=C3)	Regional Capacity Building Project for Sustainable National Greenhouse Gas Inventory Systems in Southeast Asia (SEA GHG Project, Phase 2)	UNFCCC Secretariat	2011	UNFCCC (2015b)
V6	SilvaCarbon Program in Supporting Capacity development for Forest and Terrestrial Carbon Monitoring and Management	USAID	2012	Brann et al. (2015)
V7(=C5)	Low Emissions Asian Development Program (LEAD)	USAID	2012	USAID (2015, 2017)
V8	Technical support for the implementation of the Viet Nam Greenhouse Gas Inventory System	UK's Embassy in Viet Nam and Ricardo-AEA	2016	UKFCO (Unknown)
V9	Information Matters: Capacity Building for Enhanced Reporting and Facilitation of International Mutual Learning through Peer-to-Peer Exchange (Viet Nam)	GIZ/BMUB	2016	GIZ (2016, 2017, 2018)
V10	Viet Nam: Preparation the Second Biennial Update Report under UNFCCC	UNEP	2016	UNEP (2016)

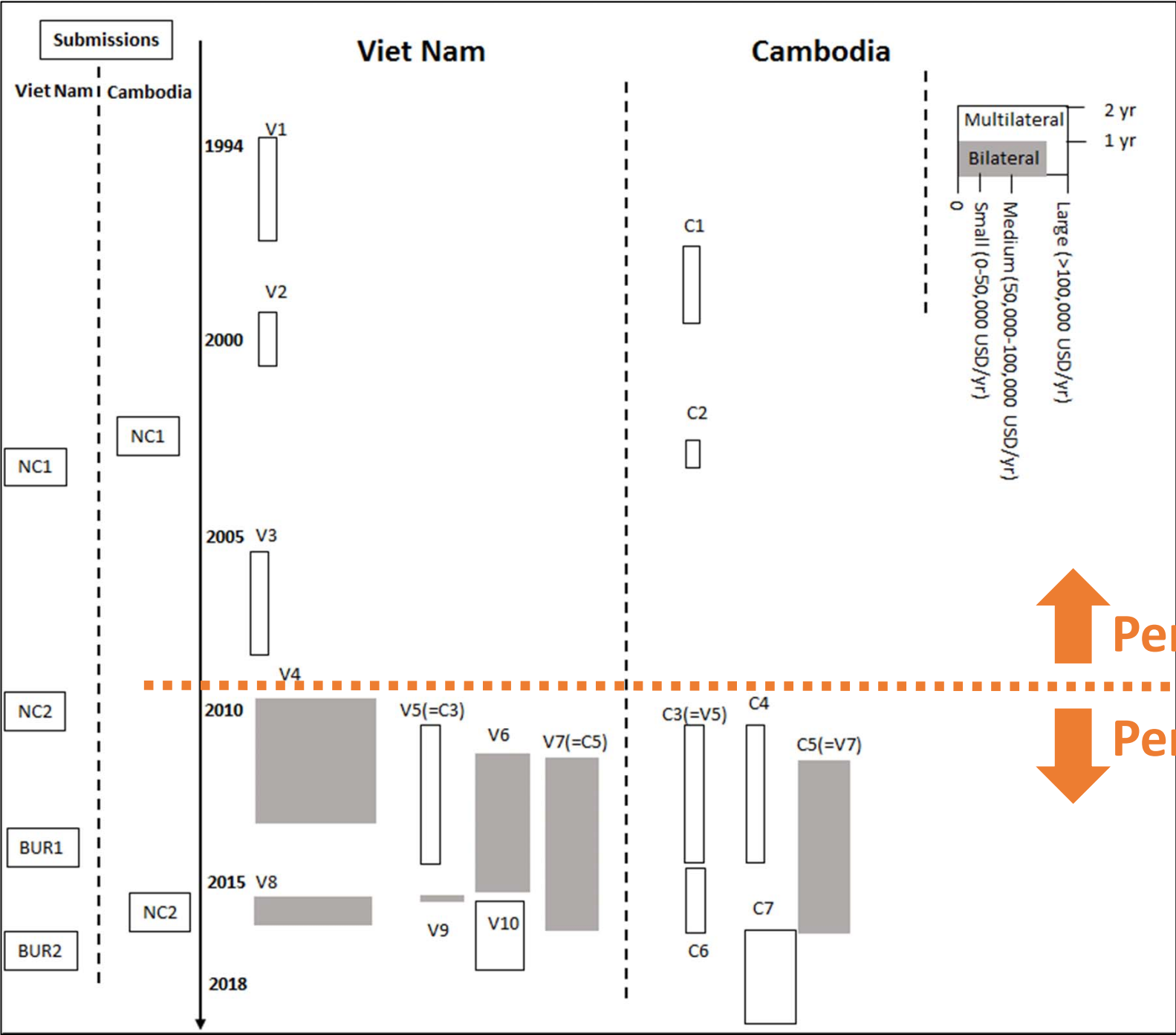
10 PJs = 5 Multi + 5 Bilateral / 5 Regional + 5 Nat'l



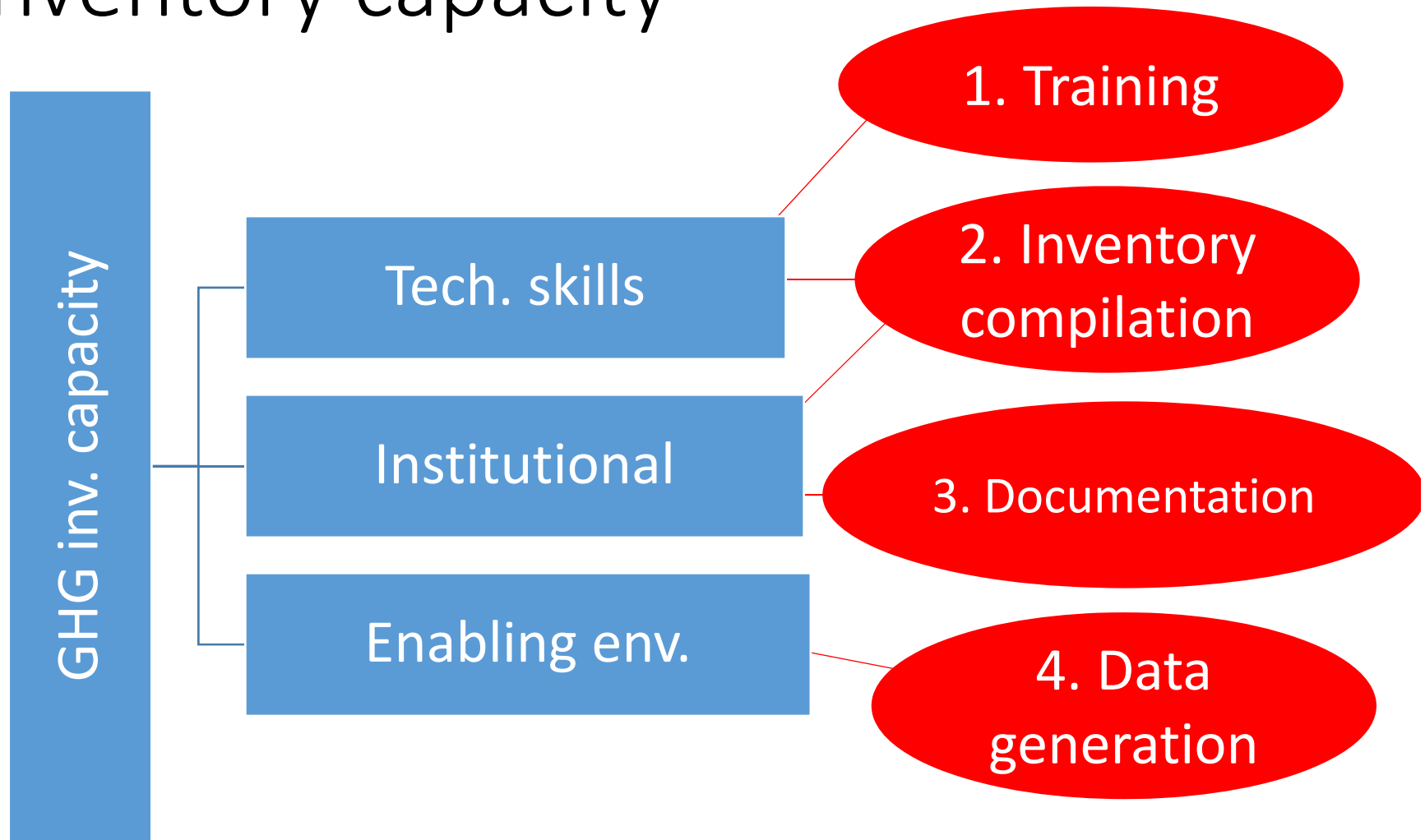
# Cambodia

Cambodia			
C1	Enabling Cambodia to Prepare its First National Communication in Response Climate Change Enabling Activity [Phase 2]	UNDP	1997 UNDP (1997)
C2	Cambodia: Climate Change Enabling Activity [Phase 2]	UNDP	2002 UNDP (2001)
C3(=V5)	Regional Capacity Building Project for Sustainable National Greenhouse Gas Inventory Systems in Southeast Asia (SEA GHG Project, Phase 2)	UNFCCC	2011 UNFCCC (2015)
C4	Umbrella Programme for National Communication to the UNFCCC	UNEP	2011 GEF (2011)
C5(=V7)	Low Emissions Asian Development Program (LEAD)	USAID	2012 USAID (2015, 2017)
C6	Umbrella Programme for Biennial Update Report to the UNFCCC	UNEP	2015 GEF (2014)
C7	Strengthening capacity in the agriculture and land-use sectors for enhanced transparency in implementation and monitoring of Cambodia's Nationally Determined Contribution (NDC)	FAO	2017 GEF (2017)

7 PJs = 6 Multi + 1 Bilateral / 4 Regional + 3 Nat'l



# 4 approaches around GHG inventory capacity



# Before BURs started (Period 1)

ID	Approach centered on:	Activity/output	Tool specific to GHG inventories
<b>Viet Nam</b>			
V1	Inventory compilation	A GHG inventory for 1993; A coordination agency for GHG inventories; A manual for the methodology; Recommendations for the IPCC Guidelines	
V2	Inventory compilation	A GHG inventory for 1994; A national study team; A database system for management of the inventory	
V3	Inventory compilation	A GHG inventory report for 2000; A national study team; Improved emission factors; A database; Recommendations for the IPCC Guidelines	
<b>Cambodia</b>			
C1	Inventory compilation	A GHG inventory for 1994; A National Technical Committee; Procedures and training needed	
C2	Data generation	A National Technical Committee; A database of GHG emission factors and activity data; Improved activity data for the LULUCF	

# Viet Nam in Period 2

ID	Approach centered on:	Activity/output	Tool specific to GHG inventories
<b>Viet Nam</b>			
V4	Inventory compilation; Documentation	A GHG inventory for 2005 and 2010; A manual for GHG inventory compilation process; Documentation of QA/QC procedures; Roadmap for improvements in institutional systems; A manual for internal collaboration; A database; Support for line ministries and agencies to understand inventory process	
V5(=C3)	Training	Improved understanding of inventory management system; Improved capacity to compile data	Developing a national GHG inventory system template workbook; Agriculture and Land Use Greenhouse Gas National Inventory Software (ALU) Software; Inventory Project Progress Indicator (IPPI) tool
V6	Training; Data generation	Sampling protocols and design; Data capture, processing, archiving; Collection and analysis of in-situ data; Integration of remotely sensed and in-situ data; Classification and mapping of forest cover	
V7(=C5)	Training	Improved understanding of the latest IPCC Guidelines; Improved capacity for establishing institutional arrangement	Online courses on IPCC 2006 Guidelines; a National Greenhouse Gas Inventory System workbook; IPPI tool
V8	Documentation	A guidance manual on data collection; A 2016-2020 roadmap for GHGI implementation in consultation with line ministries	
V9	Training	Improved understanding of methodologies and responsibilities	ALU Software
V10	Inventory compilation; Documentation; Data generation	Inventory report for 1994-2013; New terms of references for line ministries; Online archiving and documentation database; Activity data and emission factors; An inventory archiving manual; A QA/QC plan	

# Cambodia in Period 2

ID	Approach centered on:	Activity/output	Tool specific to GHG inventories
<b>Cambodia</b>			
C3(=V5) C4	Training	Improved understanding of inventory management system	Developing a national GHG inventory system template workbook; IPPI tool
C5(=V7) C6	Training; Data generation	Improved understanding of the latest IPCC Guidelines; Improved capacity for establishing institutional arrangement; Allometric equation; Forested wetland protocol	Online courses on IPCC 2006 Guidelines; a National Greenhouse Gas Inventory System workbook; IPPI tool
C7	Inventory compilation; Documentation	National sectoral inventory reports; Regular and systematic documentation and archiving process, including QA/QC; GHG Information Management System; Support for relevant institutions to adopt tools and methodologies	

# Lessons learned

- It is only 8 years since capacity building support became on a significant scale – *is this too short or long enough?*
- Bilateral support tended to focus on countries with higher capacity – *should this be changed?*
- Institutional capacity building was provided more to Viet Nam - *was it effective?*
- Capacity building support for data seems limited – *it requires significant resources*
- Approaches for Cambodia seems to be duplicate of those for Viet Nam – *is this sufficient?*