CTCN
CLIMATE TECHNOLOGY CENTRE & NETWORK

UNEP

Enabling Technology Transfer: UNFCCC Climate Technology Centre and Network

APN Technology Scoping Workshop

Dr Parimita Mohanty,

CTCN Co-ordinator, Asia Pacific

CTCN supports the deployment of climate technologies in developing countries

Linking UNFCCC process and technology expertise

- 155 country focal points
- 250 expert implementing partners

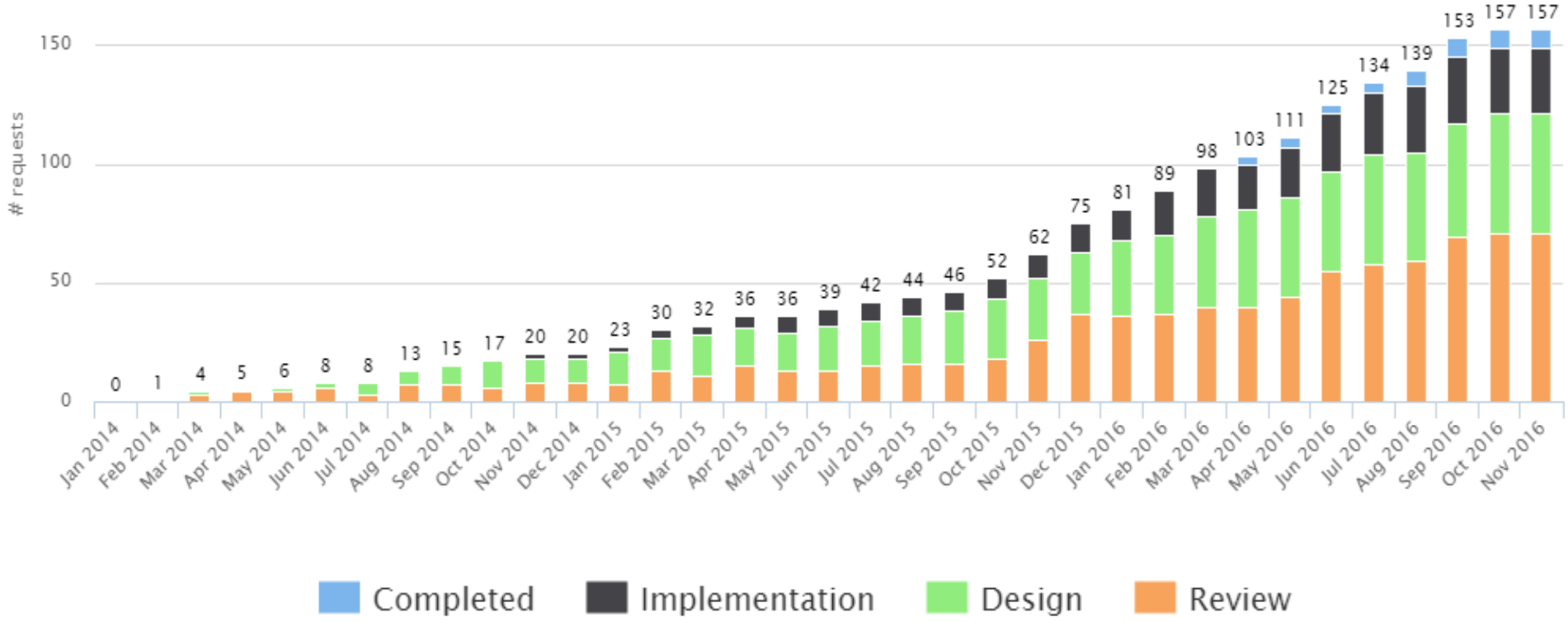
157 requests for Technical Assistance (TA) from 67 countries

- ✓ Technology identification and prioritization
- ✓ Strengthen technology policies and regulations
- ✓ Enhance project readiness and facilitate financing
- ✓ Basis for scaled-up investment

Capacity Building and Knowledge Management

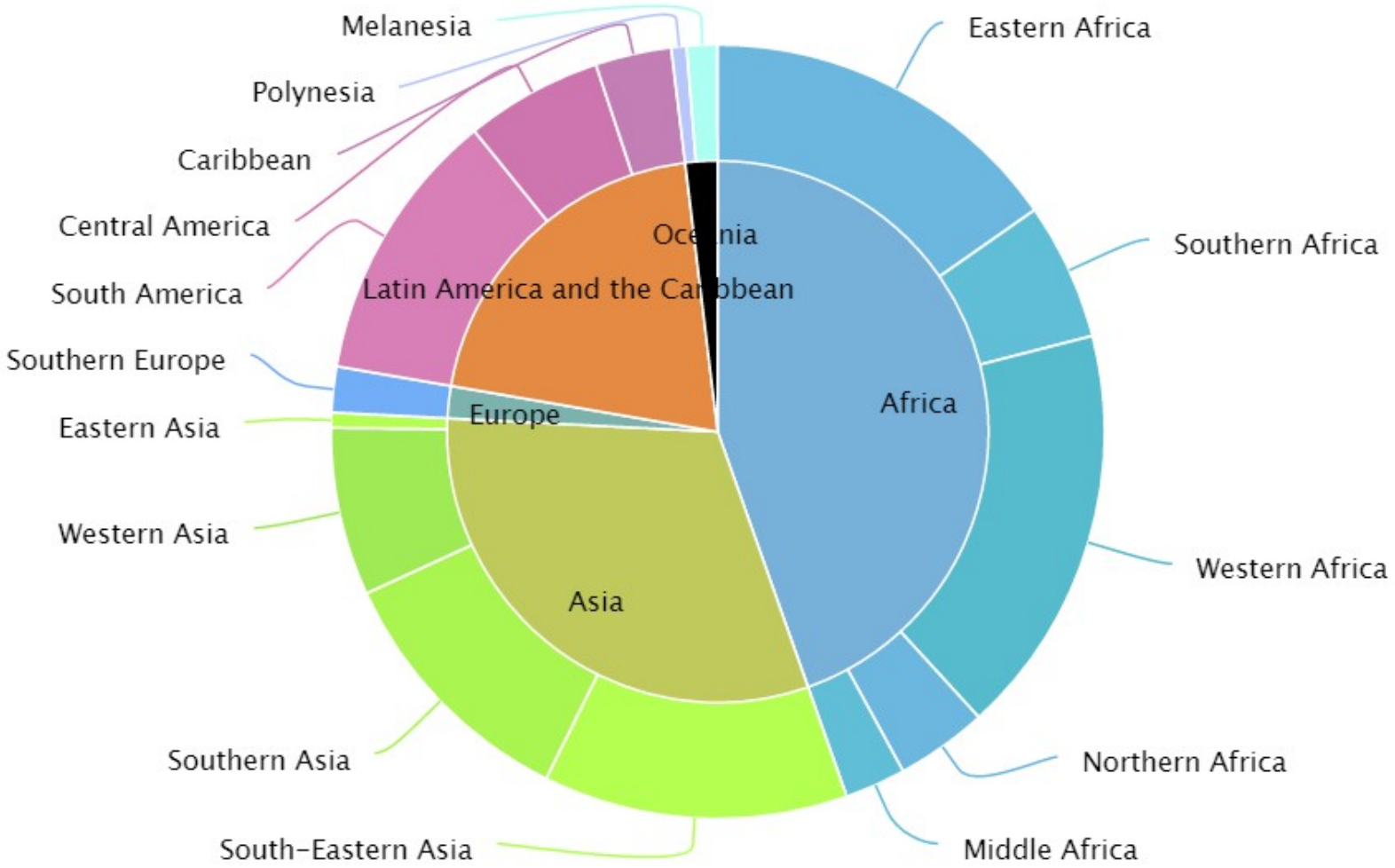
CTCN: Core Services & Sectors

Key service: CTCN Technical Assistance



Overview of Technical Assistance

by Geographic Region



Overview of Technical Assistance Sectors:

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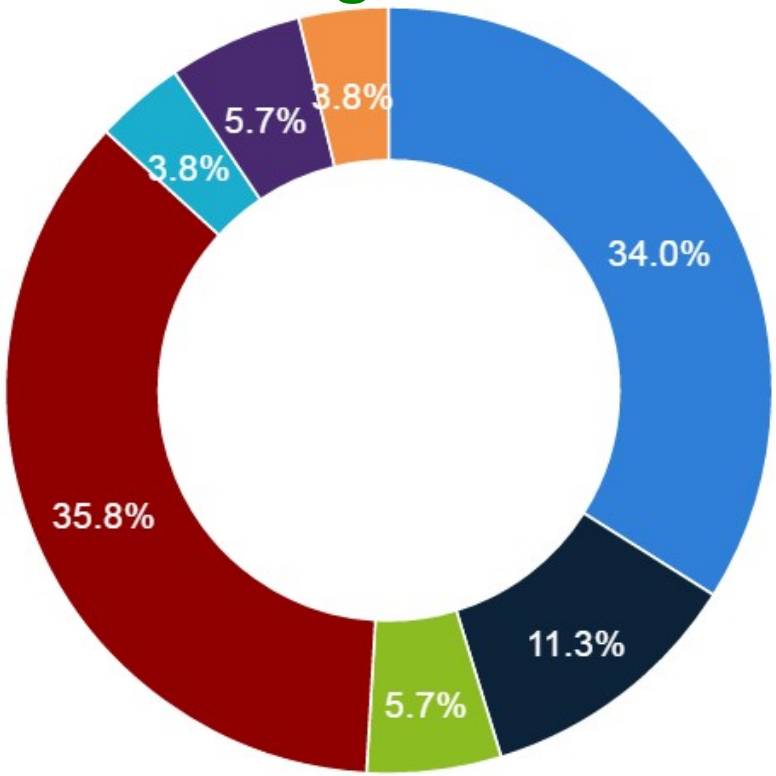
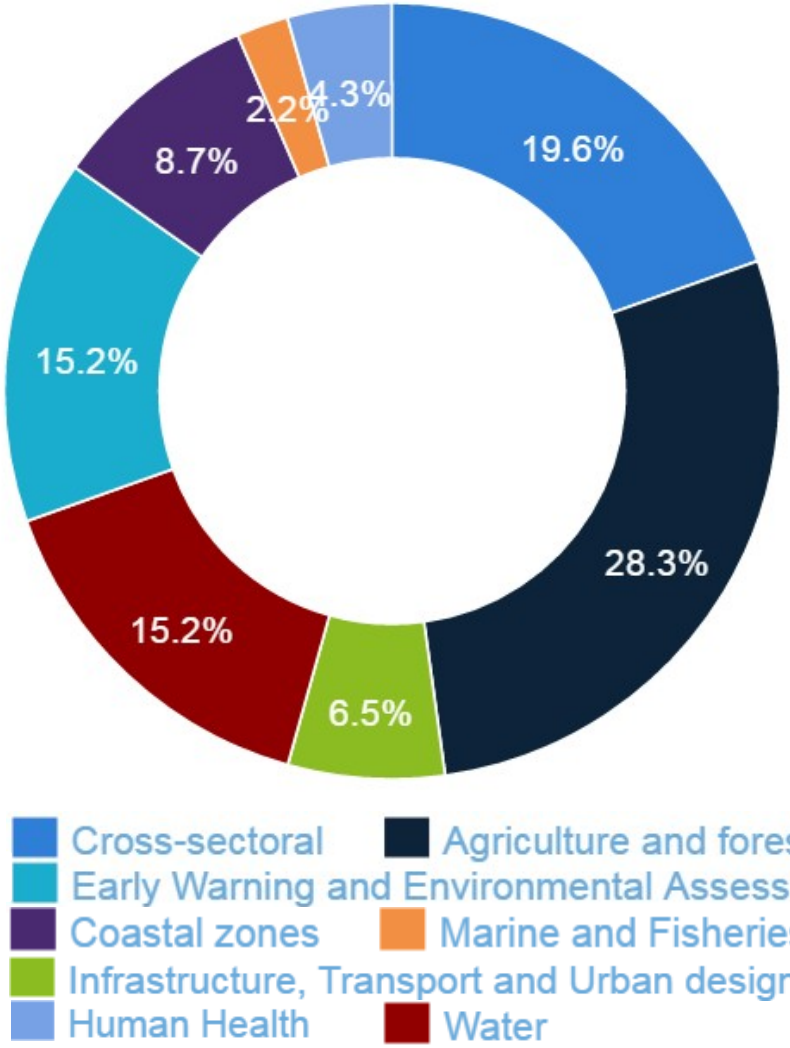
Mitigation



Adaptation



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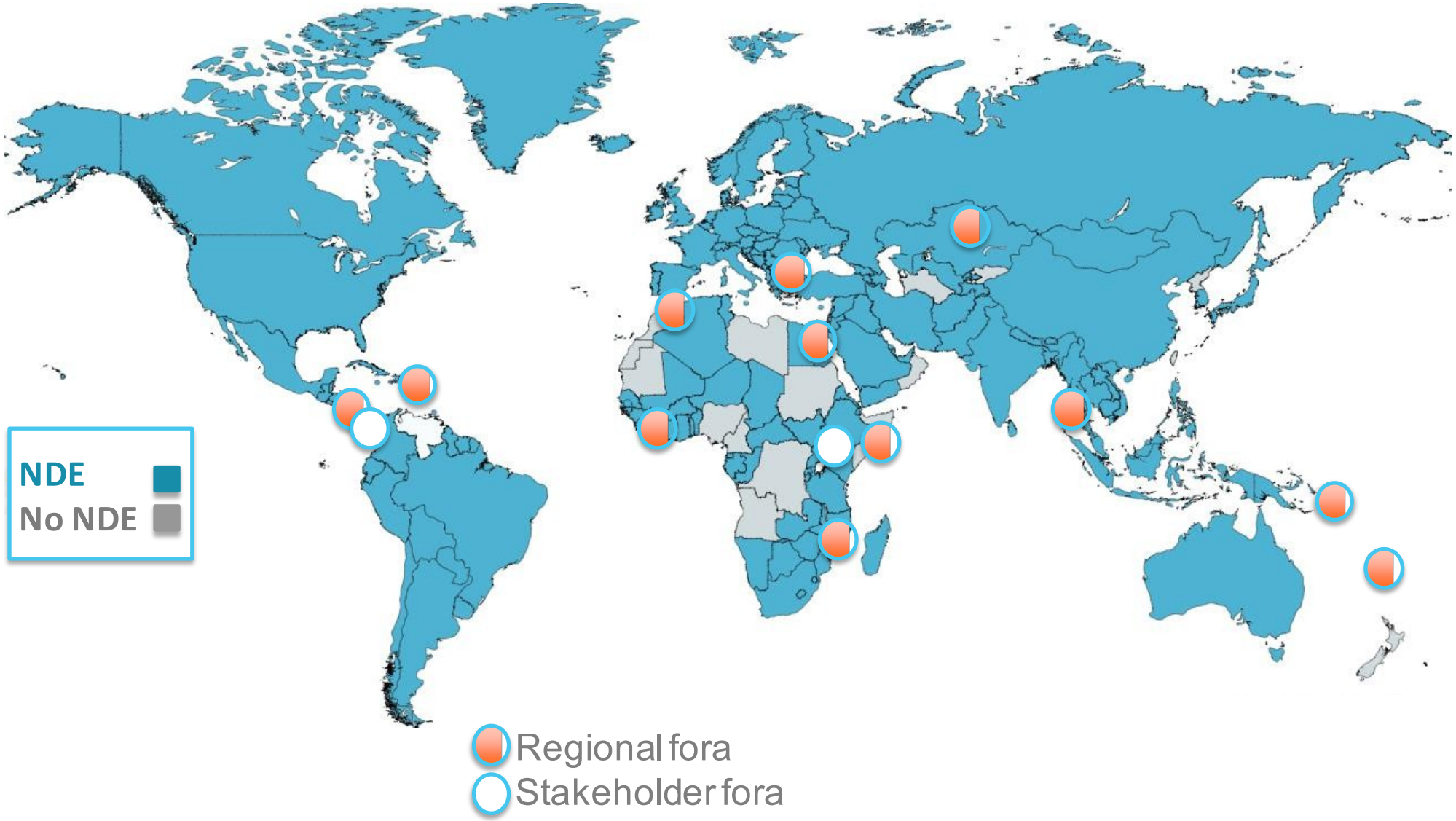
Capacity Building

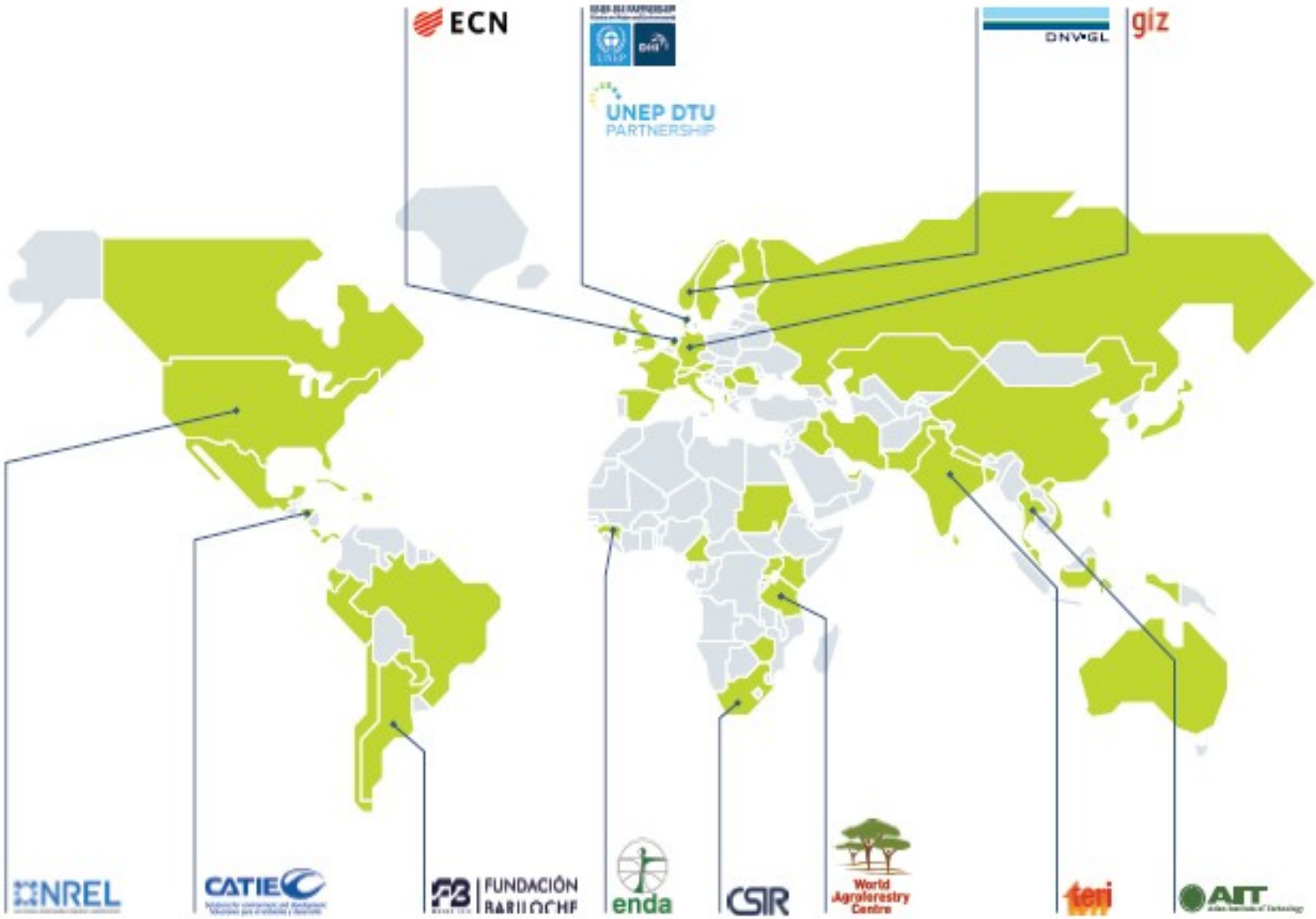
CTCN activities build capacity:

- Empowering focal points at national level
- Sharing experience at regional level through network meetings
- Thematically focused learning
- LDC Incubator Programme
- Secondment Programme

Knowledge Sharing and Capacity Building



Global distribution of Consortium Partners
Network members in 50+ countries



CTCN Network - Types of organizations

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CTCN TA outcomes contribute to UN SDG and form the basis for multilateral investment

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CLIMATE CHANGE ADAPTATION
Agriculture and forestry

Benin

THIS PROJECT ADVANCES:

The Dominican Republic's Nationally Determined Contribution to:

- Contribute to the emissions reduction target by enabling accessible and enduring energy efficiency technologies (LED lights) that leapfrog lower-performing lighting technologies
- Promote transition and further application of LED technologies for industries, small and medium-sized enterprises and household

SUSTAINABLE DEVELOPMENT GOALS

7 AFFORDABLE AND CLEAN ENERGY
9 INDUSTRY, INNOVATION AND INFRASTRUCTURE
13 CLIMATE ACTION

Agro-meteoro

What is climate technolo

Any equipment, techniqu practical knowledge or sk needed to reduce greenh gas emissions and/or ada climate change. This includes modern and tra technologies

CONNECTING COU TO CLIMATE TECH SOLUTIONS

The Climate Technol and Network promot transfer of climate technologies at the r developing countries energy-efficient, low and climate resilient development.

By connecting stakeh with technology expe around the world, th delivers customized building and technica assistance aligned wi national climate obje

Learn more about CTCN technology transfer
Visit: www.ctc-n.org
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The CTCN is the operational the UNFCCC's Technology Mechanism and is hosted by United Nations Environment Programme (UNEP) and the Nations Industrial Developm Organization (UNIDO).

The CTCN gratefully acknow

Ministry of the Environment

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CLIMATE CHANGE MITIGATION
Cross sectoral

Senegal

Applicant: Bureau de Mise a Niveau des Entreprises du Senegal
National Designated Entity: Mr. Issakha Youm Centre d'Etudes et de Recherches sur les Energies Renouvelables
Duration: 7 months
Status: Under implementation
Budget: 50,000 USD
Technical Assistance Planned by: UNIDO
Implemented by: Sofies SA

Green technology deployment in Senegal's industrial sector

CONNECTING COUNTRIES TO CLIMATE TECHNOLOGY SOLUTIONS

The Climate Technology Centre and Network promotes the transfer of climate technologies at the request of developing countries for energy-efficient, low-carbon and climate-resilient development.

By connecting stakeholders with technology experts from around the world, the CTCN delivers customized capacity building and technical assistance aligned with national climate objectives.

CHALLENGE

Senegal has a growing industrial sector. However, modern options for energy efficiency and industrial symbiosis remain untapped.

CTCN ASSISTANCE

- Conduct resource-efficient and cleaner production assessments of 5 priority sectors to identify high potential technology and process improvements
- Develop a set of recommendations (policy, regulatory, financial, technical, etc.) for each sector and an implementation plan for a pilot enterprise in each sector
- Identify and disseminate best practices for development of an eco-industrial park with a focus on industrial symbiosis (including energy and material resources treatment and recovery; waste valorisation; use of renewable energy and sustainable material substitutes; and by-product reuse and recycling)

INTENDED IMPACT: Carbon emission abatement

- Design of technology solutions that can result in a reduction of up to 10 % in energy consumption and green house gas emissions in each pilot enterprise
- Recommendations that can be replicated and scaled-up nationally in other industrial enterprises to multiply impact

UNEP

THIS PROJECT ADVANCES:

Chile's Nationally Determined Contribution to:

- Support replacement of fluorinated refrigerants to advance Chile's national mitigation targets
- Contribute to national needs for capacity building and technology transfer

SUSTAINABLE DEVELOPMENT GOALS

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CLIMATE CHANGE ADAPTATION
Infrastructure, Transport, Urban Design

What is clima

Any equipment practical know needed to red gas emissions climate chang modern and t technologies.

Learn more a technology tr
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The CTCN is the the UNFCCC's Te Mechanism and United Nations Programme (UN Nations Industri Organization (UN

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CONNECTIN TO CLIMATE SOLUTIONS

The Climate Te and Network p transfer of clim technologies a developing cou energy efficien and climate res development.

By connecting with technolog around the wo delivers custon building and te assistance alig national climat

THIS PROJECT ADVANCES

Thailand's Nationally Determined Contribution to:

- Promote and strengthen Integrated Water Resources Management (IWRM) practices
- Strengthen disaster risk reduction and reduce the population's vulnerability to climate risk and extreme weather events
- Strengthen climate modelling capacity while promoting collaboration among relevant agencies
- Establish effective early warning system and enhance the adaptive capacity of national agencies

SUSTAINABLE DEVELOPMENT GOALS

3 GOOD HEALTH AND WELL-BEING
11 SUSTAINABLE CITIES AND COMMUNITIES
13 CLIMATE ACTION

What is climate technology?

Any equipment, technique, practical knowledge or skills needed to reduce greenhouse gas emissions and/or adapt to climate change. This includes traditional, modern and high tech technologies.

Learn more about CTCN technology transfer
Visit: www.ctc-n.org
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The CTCN is the operational arm of the UNFCCC's Technology Mechanism and is hosted by the United Nations Environment Programme (UNEP) and the United Nations Industrial Development Organization (UNIDO).

THE STORY

When a World Bank report on Climate Risks and Adaptation in Asian Coastal Megacities indicated that Bangkok must undertake proactive measures to address increased flooding risks as an integral part of urban planning, the Bangkok Metropolitan Administration sought technical assistance through the CTCN.

The CTCN drew on technical expertise of the UNEP-DHI Centre on Water and the Environment and the guidance of Thailand's National Designated Entity to design an urban flood early warning system for a high-risk catchment within the Bangkok Metro area. This assistance includes technology transfer, a demonstration programme and capacity building.

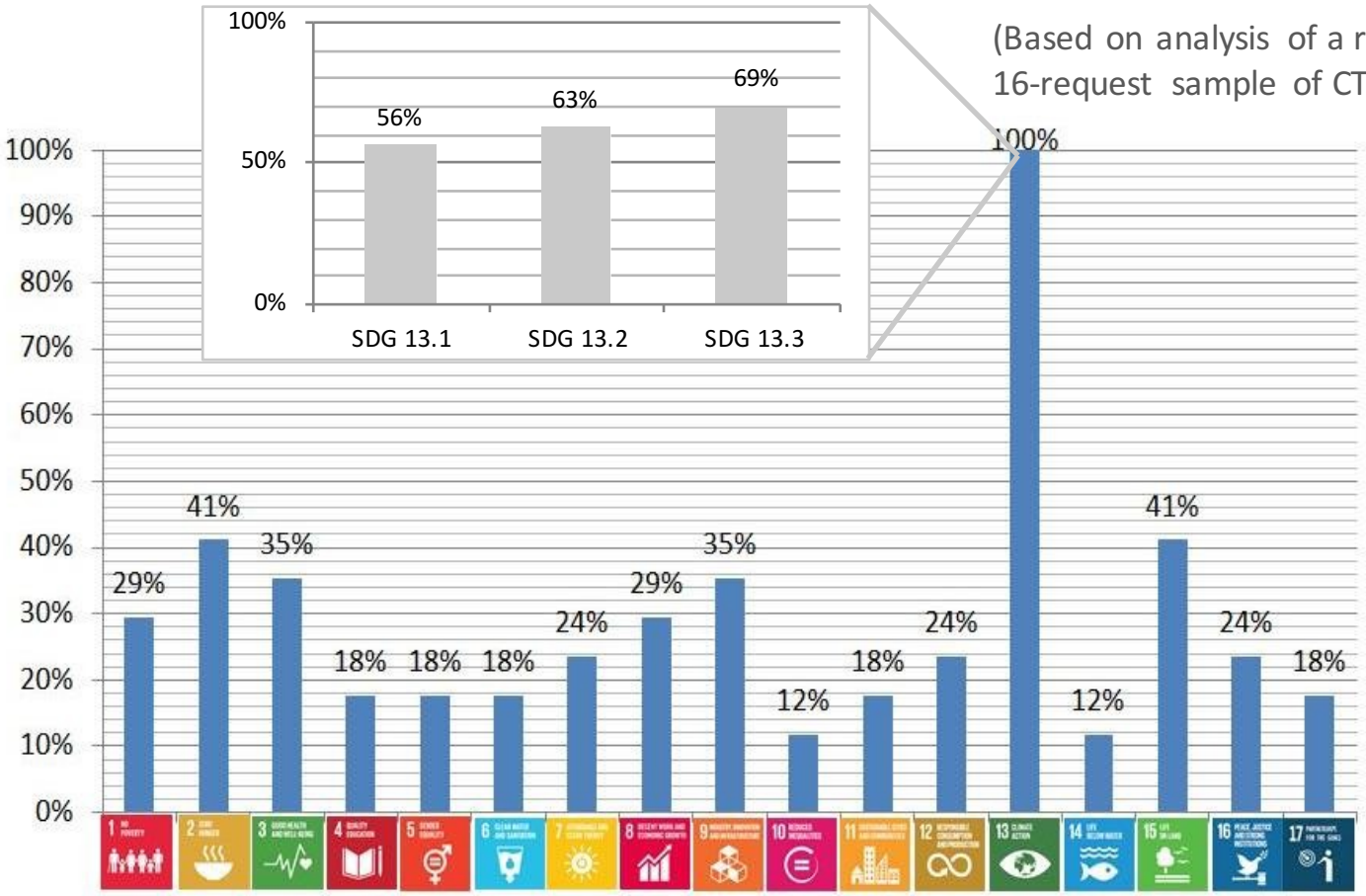
The flood warning system will provide:

- Information on flood risk zones to residents and commuters through an automated web and mobile platform
- Empowerment of Bangkok city staff with warning management skills
- Proposed methods to expand the system through a citywide warning platform
- Dissemination of findings to other cities and organizations in the region.

The CTCN gratefully acknowledges the support of :

Norwegian Ministry of Foreign Affairs
European Commission
DANIDA
Canada
METI
Ministry of the Environment
Government of Germany

TA Impact as contribution to SDG



SGD 13: Take urgent action to combat climate change and its impacts

13.1 - Strengthen resilience and adaptive capacity to climate-related hazards and natural disasters in all countries

13.2 - Integrate climate change measures into national policies, strategies and planning

13.3 - Improve education, awareness-raising and human and institutional capacity on climate change mitigation, adaptation, impact reduction and early warning

REGIONAL UPDATES

Regional Updates on Technical Assistance

TA					
	Total No of TAs	Total No of TA (Prioritized)	Adaptation related TA	Mitigation related TA	Cross sectoral
South Asia	15	12	4	5	3
South Easter Asia	15	12	5	3	4
Pacific	2	2	0	2	0
		TOTAL	9	10	7
		GRAND TOTAL	26		

Number of countries covered	
South Asia	6
South East Asia	5
Pacific	2
	13

Technical Assistance: Implementation

- Hydrodynamic modeling for flood reduction and climate resilient infrastructure development pathways in Jakarta (Indonesia)
- Strengthening Bangkok's Early Warning System to respond to climate induced flooding (Thailand)
- Bio-waste minimization and valorization for low carbon production in rice sector (Vietnam)
- Technology development for climate resilience and efficient use of resources in the agricultural sector in Thailand (Thailand)

Technical assistance -INDONESIA

A Hydrodynamic flood model that can be used to evaluate number of hard and soft engineering interventions to reduce the risk of flooding

TA involves

- Consultations with local stakeholders on existing risks associated with flood, how the model can create the scenarios/projections and proposed interventions etc
- Capacity building of local stakeholders on flood modelling
- A socioeconomic survey to examine inhabitant's perception of flooding, level of acceptable risks and preferred adaptation options

Research team discuss with local people during pre-survey in Cengkareng district, West Jakarta

Fill the knowledge gaps at various levels

Technical clinics -THAILAND

Capacity building workshop on climate resilient agriculture in Thailand

Knowledge on Precision farming and on-site specific agricultural management

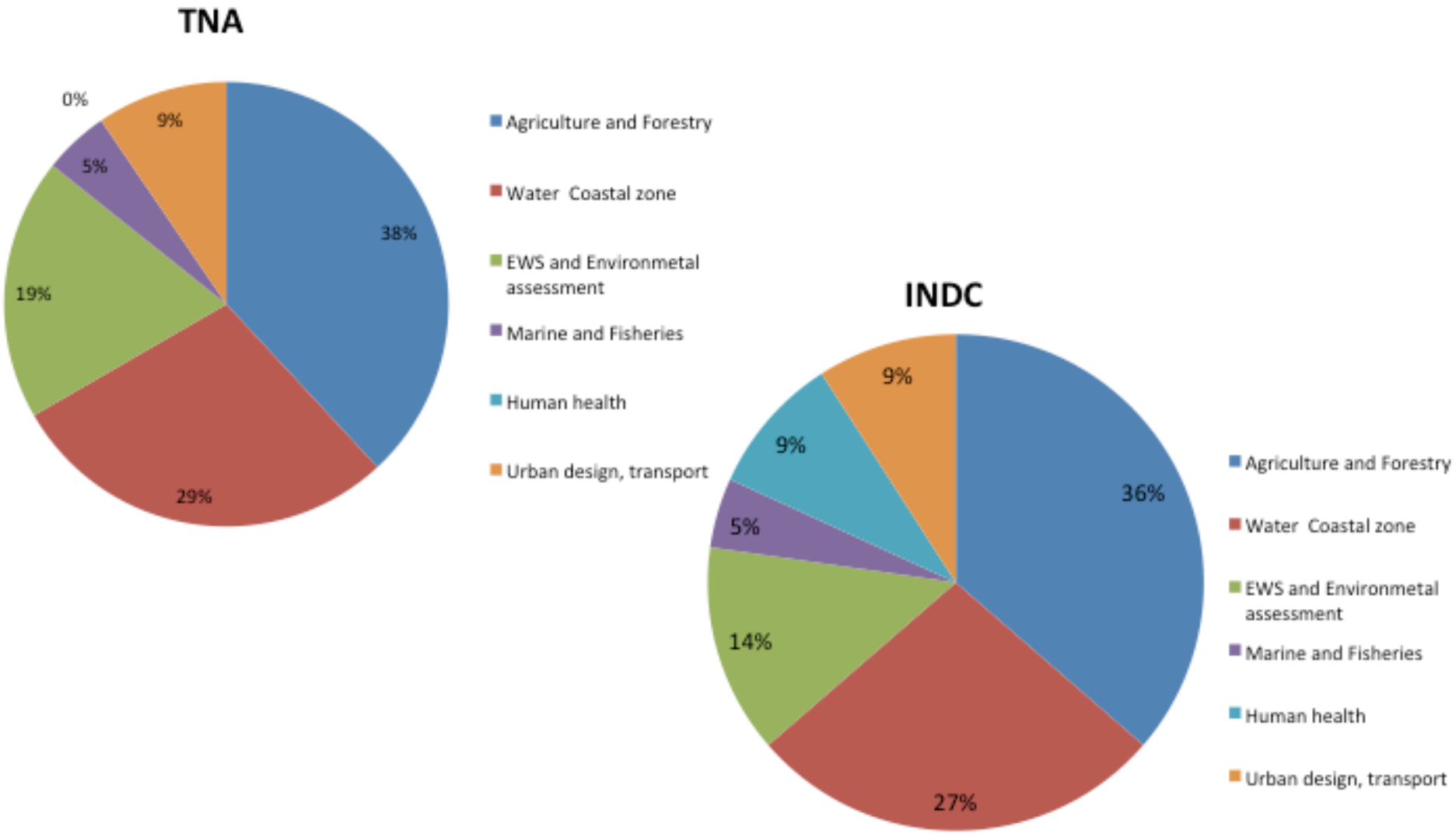
→ optimise input of resources and overall agriculture farming practices

- Brought together about 55 participants from universities and the government sector and
- Covered five main topics, including - Plant phenotyping, density mapping and yield estimation, Hyper/Multi spectral and thermal imaging, Geo-informatics, Sensor technology, and Smart irrigation and fertigation
- workshop used a mix of training techniques such as classroom lectures, interactive discussions, field exercises, project work, and one local field visit

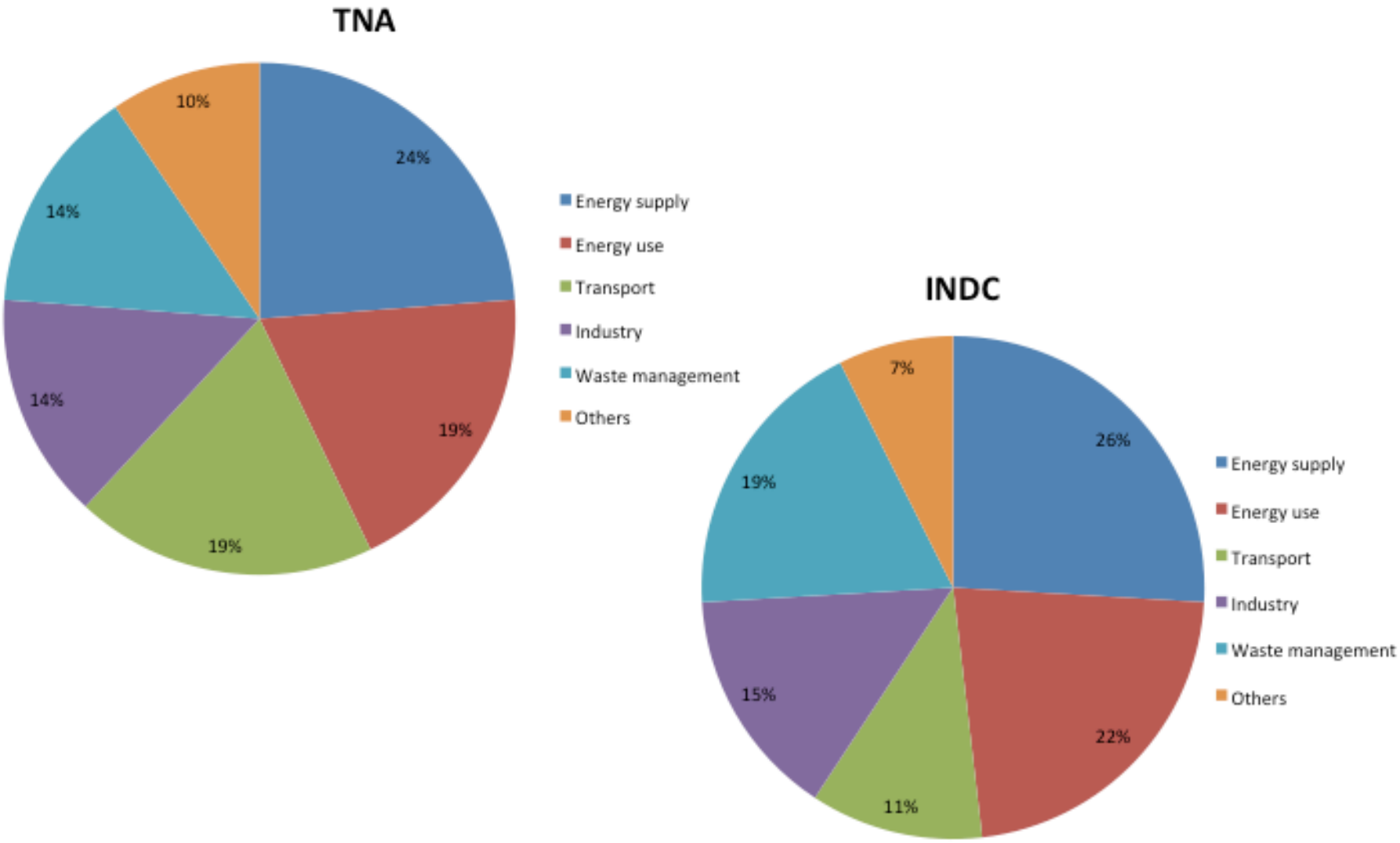
ity Building activities on Intelligent Transport

South-South Cooperation between Thailand and Bhutan

Mapping of Priorities in South Asia Countries - Adaptation



Mapping of Priorities in South Asia Countries - Mitigation



Priority Sectors- ADAPTATION

Agriculture and Forestry (35-40%)

Water, Coastal (27-35%)

Early Warning System (15-20%)

Priority Sectors- MITIGATION

Energy Use and Energy Supply (45-50%)

Transport (12-20%)

Industry (13-16%)

CTCN PRIORITIZED REQUESTS- ADAPTATION

SECTOR	TYPEOF SUPPORT	CTCN REQUEST
AGRICULTURE &FORESTRY	Policy	• Technical support to formulate a National Agroforestry Policy for Nepal (Nepal) • Developing policy framework and business model to promote sustainable use of biomass briquettes in Nepal (Nepal)
	Capacity Building	• Technology development for climate resilience and efficient use of resources in the agricultural sector in Thailand (Thailand)
COASTAL ZONE,INFRASTRUCTURE	Capacity building on climate modeling, Policy recommendation	• Hydrodynamic modeling for flood reduction and climate resilient infrastructure development pathways in Jakarta (Indonesia) • Integrated flood management strategy (**Bhutan**)
EWS &ENVIRONMENTAL ASSESSMENT	Feasibility study, Climate modeling and projection	• Strengthening Bangkok's Early Warning System to respond to climate induced flooding (Thailand) • High resolution regional climate model projections for Thailand (Thailand)
CROSS SECTORAL	Assessment	• City Climate Vulnerability Assessment and Identification of Ecosystem-based Adaptation Intervention (Lao PDR)

CTCN PRIORITIZED REQUESTS- MITIGATION

SECTOR	TYPE OF SUPPORT	CTCN REQUEST
ENERGY SUPPLY AND USE	Technical Assessment; Business model ;	• Desalination Plant including Power Generation (in Mega Watt scale) (IRAN) • Technology of Photovoltaic (PV) Solar Cell Design and Manufacturing (IRAN) • Micro Combined Heat and Power Technology (IRAN) • Assessment of energy efficient street lighting technologies and financing models for Thai municipalities(THAILAND)
WASTE MANAGEMENT	Technical Assessment, Investment scenario building; Linking Technology with Investment	• Bio-waste minimization and valorization for low carbon production in rice sector (VIETNAM) • The Development of Anaerobic Digester Technology for Palm Oil EFB Waste in Indonesia (INDONESIA)
TRANSPORT	Capacity Building, Technical Assessment	• Reducing GHG Emissions from Transport by Improving Public Transport Systems through Capacity Building and Use of Technology (BHUTAN)
INDUSTRY	Benchmarking	Benchmarking Energy & GHGs Intensity in Metal Industry of Thailand (THAILAND)
OTHERS	Technology Assessment , Capacity Building	• Fostering Green Buildings in Thailand towards Low Carbon Society ((THAILAND)

Looking forward

Matching DC needs with private sector solutions

- ✓ Stakeholder Forums in priority sub-regions
- ✓ Engagement with Business Dialogues
- ✓ Stronger Developed Country NDE Engagement

Enhancing Linkages with the Financial Mechanism

- ✓ GEF Pilot Programmes
- ✓ GCF collaboration under Readiness & PPF

Thank you

Norwegian Ministry of Foreign Affairs

European Commission

Udenrigsministeriet DANIDA

Canada

METI

環境省 Ministry of the Environment

Ministry for Foreign Affairs of Finland

Comhshaol, Pobal agus Rialtas Áitiúil Environment, Community and Local Government

Governments of Switzerland and Germany

Trend: Gender and Climate Technology Mainstreaming gender for a climate-resilient energy system in West Africa

Challenge

- Include women in capacity building to improve energy & environmental systems

CTCN action

- Build country capacity to undertake gender audits in the energy sector Support
- data services & research Develop
- gender-responsive project screening tools & demonstration projects

Intended Impacts

- Contribute to increased deployment of climate- and gender-smart investments, mainstreaming into energy policy/programs

Sector: Early Warning System for Adaptation Improving crop resilience in Ghana

Challenge

- Changing rainfall patters are increasing rural vulnerability and land degradation

CTCN action

- Design early warning system
- Strengthen collaboration to support climate resilience of crop production
- Road map to scale up financing
- Adjust and validate drought early warning and forecasting technologies

Intended Impacts

- Reduce crop losses, and improve yields and farmer livelihoods

Failed maize crops in Ghana's Upper West Region. N.Palmer, CGIAR

Sector: Energy Efficiency
Green Technology Deployment in Senegal

Challenge

- Modern energy efficiency & industrial symbiosis options untapped in Senegal

CTCN action

- Identify high-potential technology and process improvements in 5 key sectors
- Develop recommendations and disseminate best practice
- Develop pilot implementation plan

Intended Impacts

- Design technology solutions with potential to deliver 10% reduction in energy consumption & GHG emissions