

Agenda item 4.c.ii

Final Report: Needs, Gaps, Challenges, Enablers and Measures to Develop and Enhance Endogenous Capacities and Technologies

TEC/2021/22/10

Technology Executive Committee, 22nd meeting

Virtual meeting, 20-23 April 2021 and 26 April 2021 (TEC-CTCN Joint session)



Taskforce Enabling Environment & Capacity-building /

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Background

- Task for 2020 (Actv. 2 Enabling environment & capacity-building):
 - *To analyse measures that facilitate countries in enhancing enabling environments to promote endogenous capacities and technologies*
- Build on previous work by TEC, CTCN, PCCB
- Produce a working paper related to gaps, needs, enablers, challenges and measures to develop and enhance endogenous capacities and technologies

Process and timelines

- January 2020: Kicked off the work
- February/March: Task force reviewed previous work and discussed methodology/approach for surveys, developed draft questionnaires
- April: Presented approach and draft questionnaires at TEC 20
- April: Finalized surveys, identified respondents
- May-August: Surveys opened
- September-October: Analyzed results
- November: Presented preliminary findings at TEC 21
- **April 2021: Present final report at TEC 22**



Since TEC 21

- Extensive revisions, incorporating:
 - Feedback from TEC21 and task force
 - Analysis of remaining open-ended questions
 - Reports on additional cross-cutting issues of interest
 - Links to related work from TEC and PCCB
 - Conclusions and recommendations
 - Use of study and possible further work
 - Division of report into main report and statistical data and analysis
- Review drafts with task force



Questionnaires and target groups

Three surveys were developed for and distributed to the three target groups:

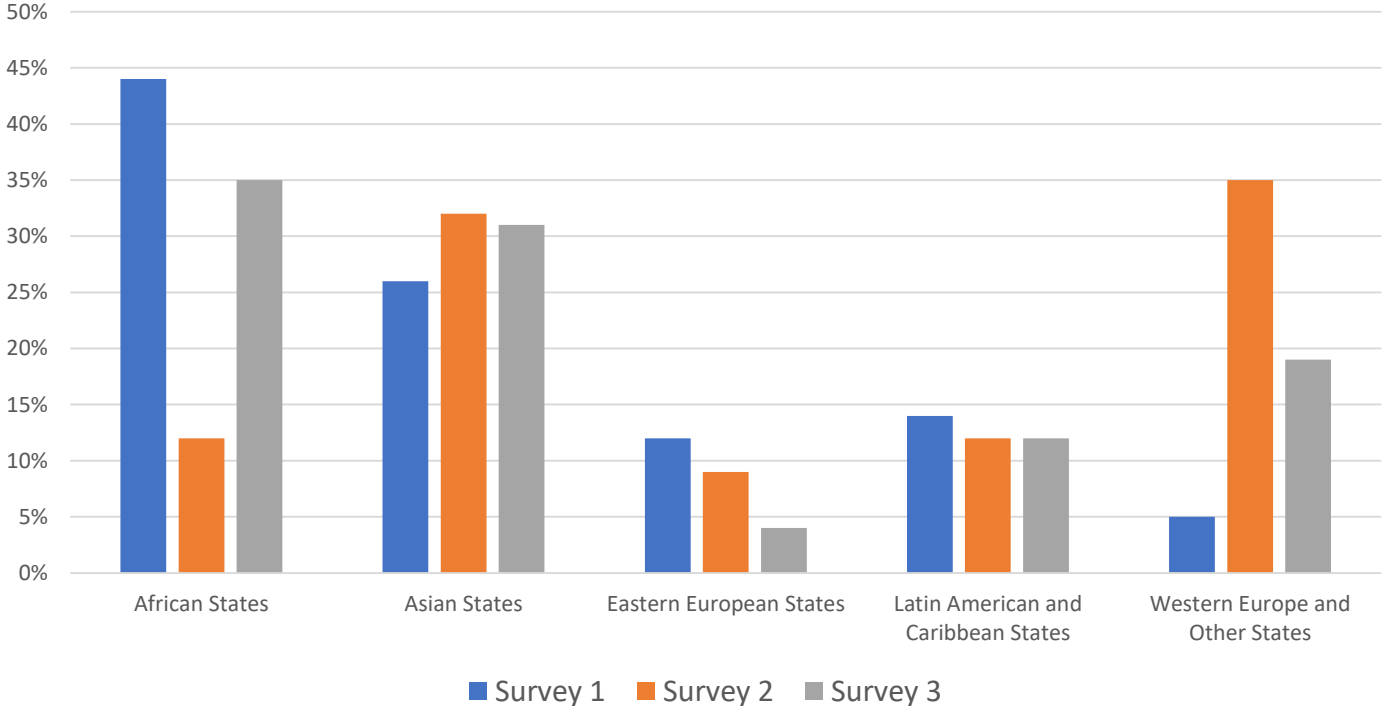
- **Survey 1:** NDEs and TNA focal points— knowledgeable about national efforts relating to climate capacities and technologies
- **Survey 2:** TEC, CTCN, and PCCB members and observers— strong understanding of endogenous capacities and technologies in general
- **Survey 3:** Practitioners who have worked on projects on the ground—best understanding of actual use of technologies in climate-related projects

Full statistical data and detailed analysis is available in separate document in TT:CLEAR



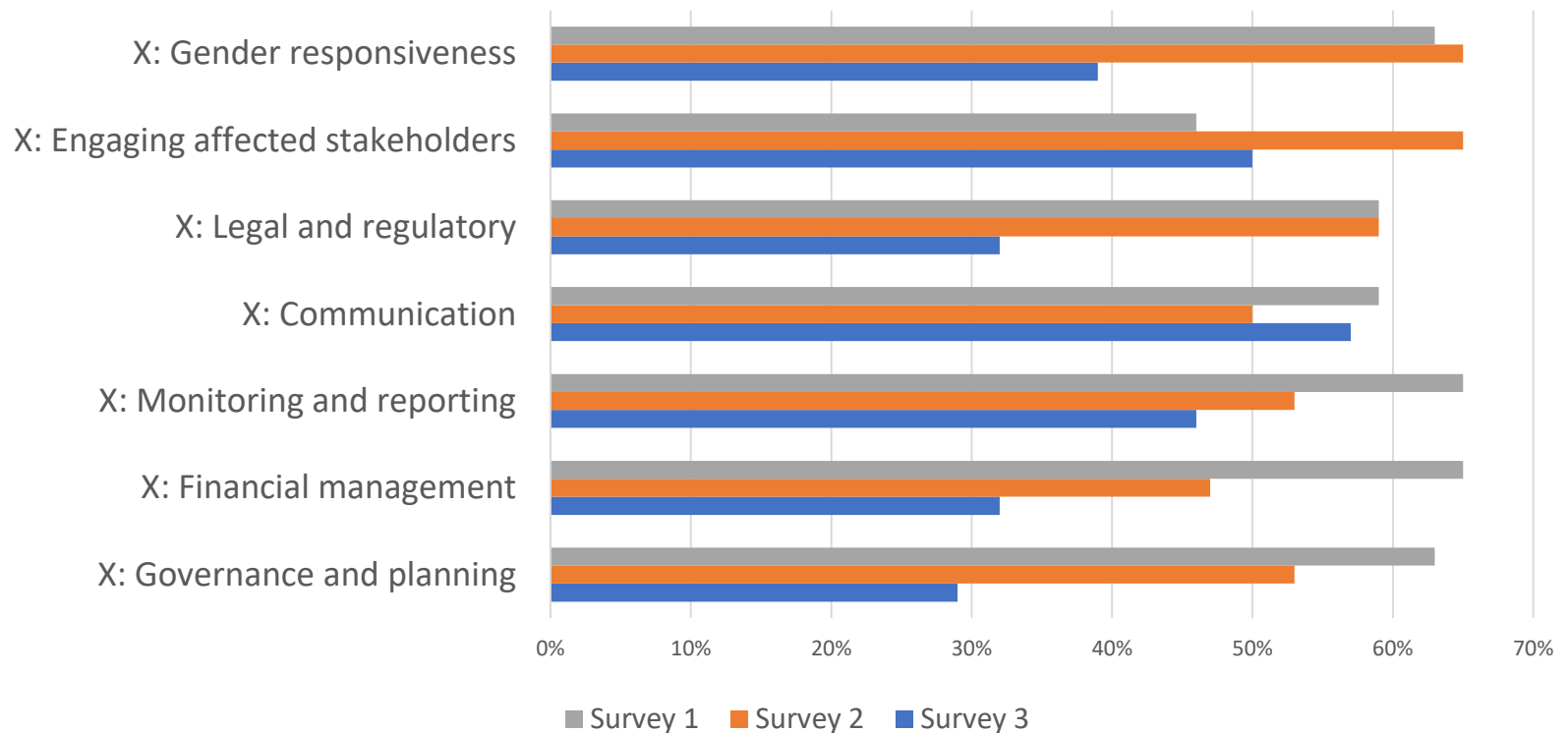
Respondent characteristics: regions

Figure 1
Respondent country regions



Needs and gaps: e.g. Cross-cutting weakness

Figure 5
Cross-cutting Weaknesses



Needs and gaps: NDE capacities

- 38 NDEs and TNAFPs who responded to this question described more than 60 personal capacity needs, ranging from: adaptation, mitigation, data collection and management, monitoring and evaluation, financing, gender, to support for UNFCCC negotiation

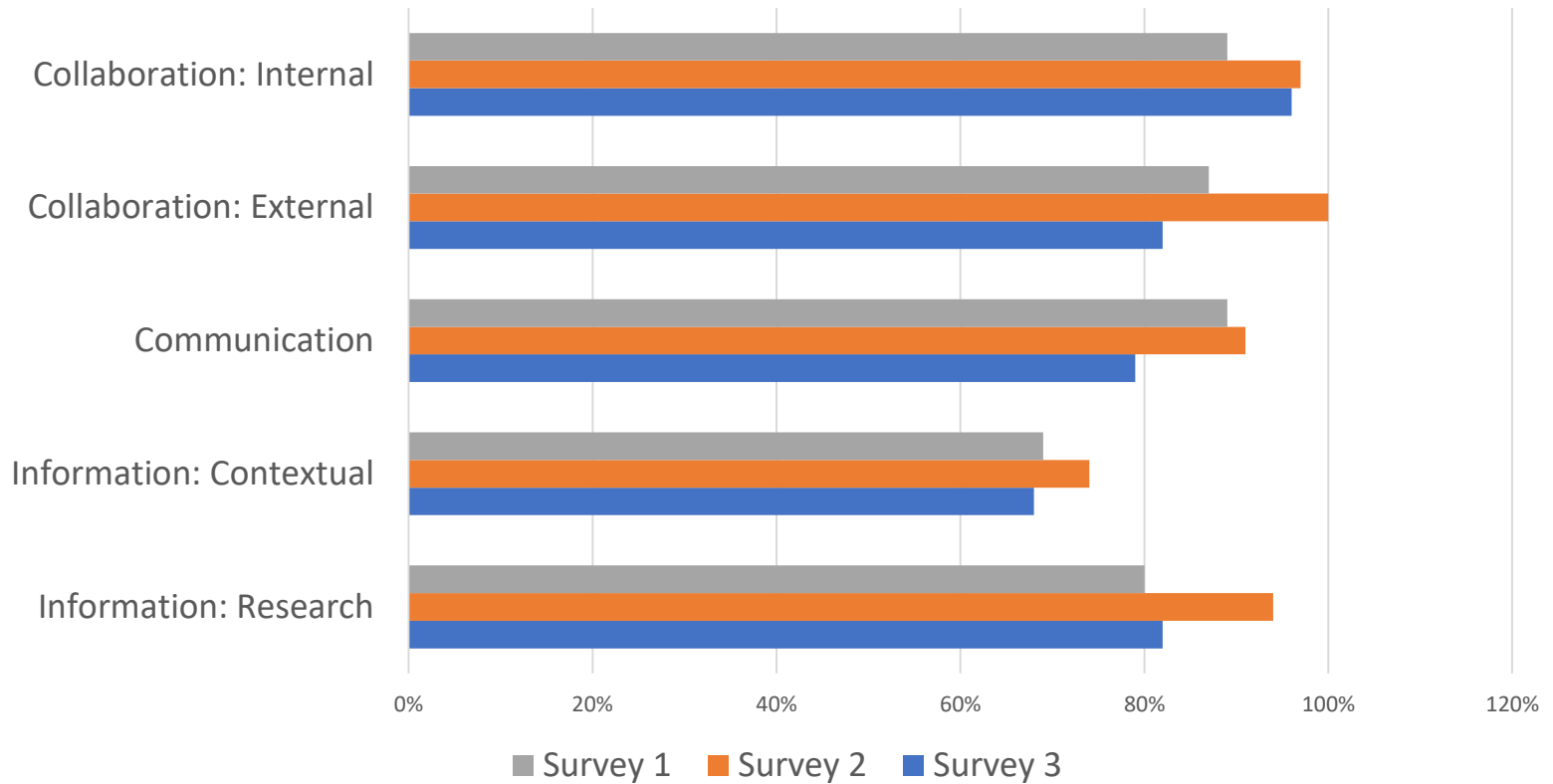


Needs and gaps: Skills and knowledge

- Focus: Specific areas of skills and knowledge
- Results: Percentage choosing “Strong” or “Very strong” needs
 - Percentages ranged from 18% to 91%
 - Making development more sustainable was highest or second highest need in all three groups
 - As with capacities needs, different groups show different views on what the prioritized needs for skills and knowledge are

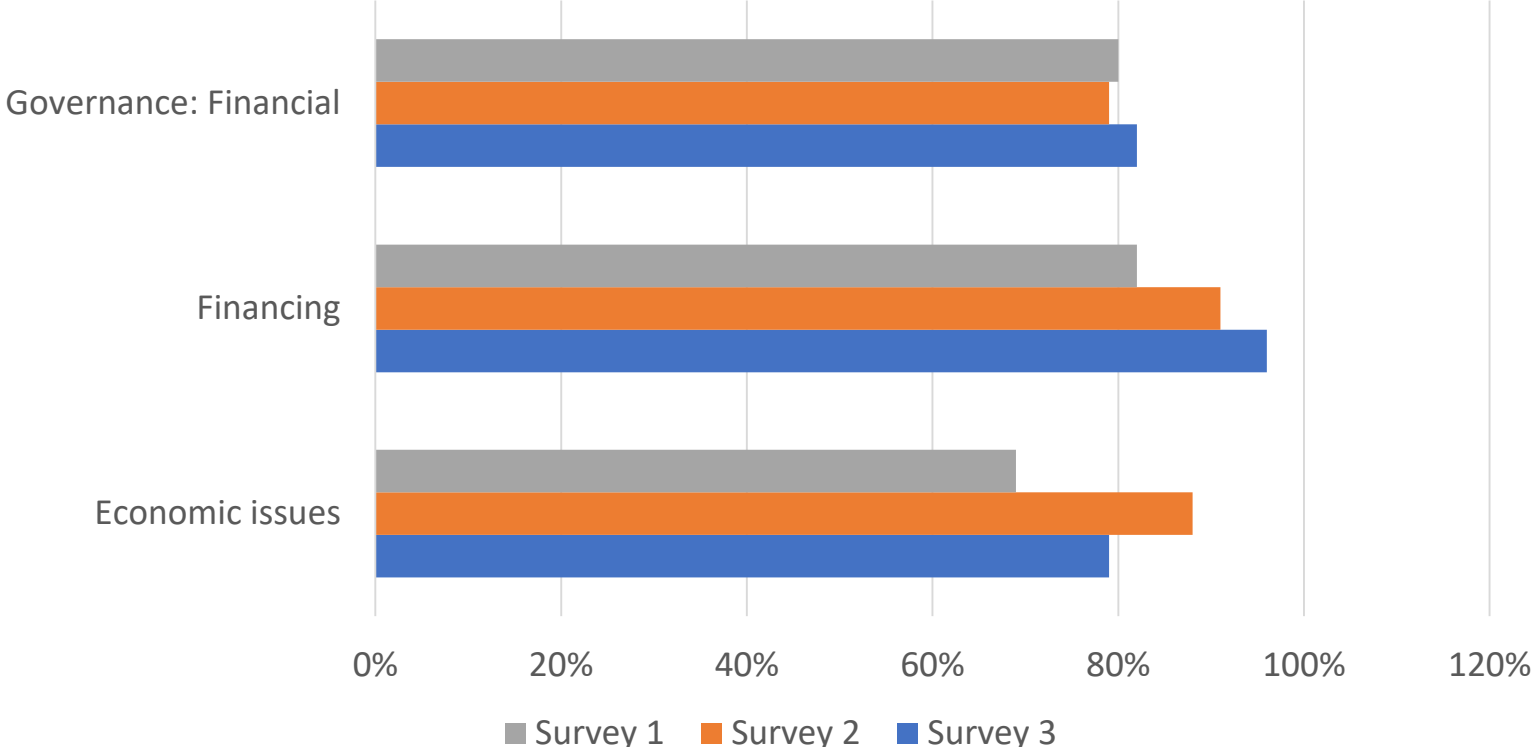
Enabling strategies:

Figure 6
Enablers: collaboration, communication, information



Enabling strategies:

Figure 7
Enablers: financial and economic issues



Challenges

- Grouped according to the enabler items, with three additional categories for responses that did not fit
- Results: 402 challenges listed
 - No consensus on challenges of concern
 - No one category contained more than 19% of the challenges listed by respondents to that survey

Measures to enhance endogenous capacities

- Results: Percentages choosing “Moderately” or “Very important”
 - Ratings were similar for the importance of measures to develop new technologies and measures to adapt existing technologies to local needs and conditions
 - Access to funding; training in research, development and implementation; educational programs; and collaboration were seen as highly important by all three groups

Cross-cutting issues

- Research and innovation
- Finance and economic issues
- Stakeholder engagement
- Gender
- Indigenous peoples and local communities
- Collaboration and partnerships
- Governance
- Legal and regulatory framework



Comparison with other work

- **TEC mapping on enablers and challenges:**
 - Findings of the two studies were remarkably consistent, in particular with regard to top three enablers and challenges
- **PCCB work on needs and gaps:**
 - Both studies confirmed that countries continue to experience many different gaps and needs in their capacities to deal with climate-related challenges
 - Importance of stakeholder participation in capacity building
- **TEC compilation of collaborative RD&D:**
 - Desirability of extensive stakeholder involvement, particularly at the early stage, is consistent in both studies



Conclusions

- **Capacity needs and gaps**
 - Countries have many capacity, skill, and knowledge needs, which are very context-specific
- **Enabling strategies and challenges**
 - Many different strategies contribute to enabling environments; some enablers are also challenges
- **Measures to develop and enhance endogenous capacities**
 - Priorities are similar for developing new technologies and modifying existing technologies



Conclusions

- **Financing**
 - Virtually all climate technology issues require adequate financing
- **Stakeholder engagement**
 - High participation is essential but actual involvement is lower than aspirations
- **Gender**
 - There is strong support for participation by women, and women are rated as the fourth most involved stakeholder group



Conclusions

- **Local communities/Indigenous peoples**
 - Engagement levels are lower than desired; there is strong support for use of local and indigenous knowledge
- **Communications**
 - Extensive communication is essential and needs to be adapted to the needs and interests of different audiences
- **Collaboration**
 - Internal and external collaboration and cooperation are among the most important enablers; essential players may differ across projects



Conclusions

- **Research and innovation systems**
 - Effective systems are essential and must involve multiple stakeholders, disciplines, and ways of knowing, along with extensive training
- **Governance**
 - All levels of governments can enable or constrain; coordination between and across levels is critical but hard to achieve
- **Legal and regulatory frameworks**
 - Can both enable and constrain; effectiveness varies with the situation



Recommendations: Stakeholder engagement

- Develop strategies to communicate with and encourage participation of every group likely to be affected by a particular problem or actions taken to address it to become involved in all stages of climate-related technology projects
- Assess and address gaps and needs in capacities needed for stakeholders to participate in planning involving climate technologies
- Take gender issues, in particular participation of women, into account in work involving climate technologies
- Incorporate best practices relating to the use of local and indigenous knowledge in developing new technologies to meet local needs and conditions



Recommendations: Governance

- Create and promote good governance at different levels, including legal, regulatory and policy frameworks that support endogenous innovation.
- Encourage close engagement of local and municipal authorities
- Enhance communication and coordination within and between government levels



Recommendations: Capacity building

- Ensure that NDEs and TNAFPs have the necessary capacities to assess technology needs, identify appropriate technologies, develop endogenous technology, understand the demands and implications of existing processes, and engage stakeholders.
- Customize capacity building based on local needs and levels of skills and knowledge.
- Consider targeting groups such as young people and workers in local capacity building projects, training and educational programs.



Recommendations: Financing

- Identify innovative, effective and flexible ways to acquire and manage funding to support the development and modification of technologies within country.
- Enhance engagement of financial institutions in the early stage of endogenous technology planning to improve access to funding.



Use of study

- Technical assistance request submitted to CTCN
- Research and innovation (TEC work on NSI)
- Capacity building (PCCB)
- Finance (GCF, GEF)
- Local communities and indigenous peoples (LCIPP)
- Gender work (TEC work on Gender, UNFCCC Gender team)
- National reporting (guidance for reviewers)
- Stakeholder engagement (UNFCCC stakeholder engagement process)



Possible further work

- Examine the roles of different stakeholders in the planning and development of a national innovation system that will build capacities and promote development of endogenous climate technologies at different levels.
- Explore a collaboration with the CTCN to further enhance the work on endogenous capacities and technologies, for example in relevant areas highlighted in the recommendations.



TEC consideration

- TEC is invited to consider and agree on the report
- TEC may also wish to consider possible future work on this topic (2022)

- **Next steps**
- Finalize and publish the document
- Disseminate the publication to groups identified in the Use of study section
- TEC to develop COP/CMA recommendations in 2021 (as per rolling workplan)



Thank you!

