

The GEF-funded Technology Needs Assessment (TNA) Phase IV Project

MID TERM REVIEW

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and

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KEY PROJECT INFORMATION

GEF Project ID:			
Implementing Agency:	UNEP	Executing Agency:	UNEP-Copenhagen Climate Centre
Focal Area(s):	Climate Change	Expected Accomplishment(s):	Foster enabling conditions for mainstreaming mitigation concerns into sustainable development strategies through enabling activities
UNEP approval date:	8th October 2020	Programme of Work Output(s):	Countries increasingly make the transition to low-emission economic development, and enhance their adaptation and resilience to climate change
GEF approval date:	8th July 2020	Project type:	Full-size Project
GEF Operational Programme #:	GEF VII	GEF Strategic Priority:	Climate Change
Project start date:	01 July 2020	Planned completion date:	31 May 2024
Planned project budget at approval:	USD 4,050,000	Actual total expenditures reported as of 31 December 2022:	USD 1,186,112
GEF grant allocation:	USD 4,050,000	GEF grant expenditures reported as of 31 Dec 2022*:	USD 1,186,112
Project Preparation Grant - GEF financing:	0	Project Preparation Grant - co-financing:	0
Expected Full-Size Project co-financing:	USD 1,375,000	Secured Medium-Size Project/Full-Size Project co-financing at MTR	USD 1227,500
No. of Steering Committee meetings:	3	Date of last/next Steering Committee meeting:	23 June 2021 July 2023 (planned)
Coverage - Country(ies):	17	Coverage - Region(s):	Global
Dates of previous project phases:	Phase I: November 2009 - April 2013 Phase II: November 2014 - September 2018 Phase III: 2018 - ongoing	Status of future project phases:	PIF for TNA Phase V submitted to GEF for council approval June 2023

ABBREVIATIONS

AF	Adaptation Fund
BAEF	Barrier Analysis and Enabling Framework
CTCN	Climate Technology Centre and Network
DTU	Technical University of Denmark
ENDA	Environment and Development in the Third World
GCF	Green Climate Fund
GEF	Global Environment Facility
NAP	National Adaptation Plan
MTR	Mid-term review
NDC	Nationally Determined Contributions
NDE	National Designated Entity
RC	Regional Center
TAP	Technology Action Plans
TEC	Technology Executive Committee
TNA	Technology Needs Assessment
UDP	UNEP DTU Partnership
UNFCCC	United Nations Convention on Climate Change

1. INTRODUCTION

Technology Needs Assessments (TNAs) were directly referenced in the Paris agreement, which acknowledged the importance of widespread technological change in reducing emissions and stabilizing atmospheric concentrations of GHGs¹.

Multilateral support to developing countries to conduct effective TNAs and implement Technology Action Plans (TAPs) has become instrumental to the UNFCCC process. Through the Global Environment Facility (GEF) funded TNA project, UNEP, together with UNEP Copenhagen Climate Centre (UNEP-CCC), works in partnership with developing countries to determine their technology priorities for mitigating and adapting to climate change.

The TNA project aims to articulate a range of specific actions that stakeholders - including governments - can pursue, to enable the transition to low-carbon and climate resilient economies. The TNA project also acts as bridge to both private and public sources of investment. The TNA project follows a country-driven approach. A designated national institution takes the lead, involving a wide range of stakeholders in the process. Working with regional centres of excellence in climate change mitigation and adaptation, the project offers support to participating countries in the form of national, regional, and global capacity building workshops, technical support missions, and technical backstopping throughout the process.

To create a greater awareness about technology needs of the countries at the regional level, and to enhance capacities within the region, UNEP and UNEP-CCC collaborate with regional centers in each of the current TNA regions. These include Francophone Africa (ENDA), Anglophone Africa (University of Cape Town), Asia (Asian Institute of Technology), Asia-Pacific (University of the South Pacific) and the Caribbean (University of the West Indies). The regional centers thus play a substantial role in providing technical support to the national TNA teams.

The current TNA Phase IV project started in October 2020 and assists 17 developing countries to carry out new or updated TNAs and TAPs. The countries include Bahamas, Lesotho, Comoros Union, Ethiopia, Guinea-Bissau, Kiribati, Maldives, Niue, Papua New Guinea, Saint Kitts and Nevis, Solomon Islands, Somalia, South Sudan, Timor-Leste, Tonga, Tuvalu and Yemen.

UNEP has carried out an in-depth internal review of the project at midterm by sending out questionnaires to all participating countries. The questionnaire covered the status of TNA project implementation in each country, and the experiences and lessons learned by countries, including challenges, methodology and training material and capacity building, technical support received, stakeholder engagement, communication and dissemination, and alignment of the TNA project with other national processes.

¹ Decision 1/CP.21, para 67

The mid-term review (MTR) is guided by the main project component/outcome with its two outputs within the Results-based Monitoring Framework specified as follows:

Output 1: Tools, methodologies and capacity building packages are further enhanced and applied to support the implementation of the TNA/TAP process

Output 2: TNAs and TAPs completed, including project ideas, with national consensus on concrete actions for implementation.

The questionnaire was sent out to all 17 participating countries in July 2022. 17 out of 17 countries responded to the questionnaires. Information on status of project implementation is as of Q3 2022 and it is expected that there has been progress made on implementation of project activities from the time the questionnaires were circulated. This review assesses the achievement of mid-term targets through the reported results, which are presented in this report.

2. MID TERM REVIEW RESULTS

The following presents an overview of the status of implementation in related to project deliverables at the country level.

2.1 STATUS OF IMPLEMENTATION

The MTR assessed progress made by countries towards finalizing deliverables by evaluating progress in each of the following main project phases:

- a) Preparing the TNA reports, including a list of prioritized technologies;
- b) Preparing the Barrier Analysis and Enabling Framework (BAEF) reports for the prioritised technologies;
- c) Preparing the TAP reports including project ideas to be integrated into national policy/development plans, as well as preparation of project concept notes;
- d) Participation in Regional Training Workshops;
- e) National Advocacy and Strategic briefs developed;
- f) National Stakeholder Consultations conducted;
- g) Project concepts developed.

Table 1 below presents, in a summary, progress made by countries in TNA Phases IV and the % of work completed.

Table 1: Summary of country responses on status of implementation of TNAs, BAEFs and TAPs

Status of deliverables completion	Countries	Number of countries (%)
TNA reports		

100% Completed	Comoros, Maldives	2 (11.7%)
>75% Completed	Somalia, Republic of Yemen, Solomon Islands, Bahamas	4 (23.5%)
50-75% Completed	Lesotho, Tuvalu, Guinea-Bissau	3 (17.6%)
25-50% Completed	St. Kitts and Nevis	1 (5.9%)
< 25% Completed	None	0
Not yet initiated	Papua New Guinea, Democratic Republic of Timor-Leste, South Sudan, Kiribati, Tonga, Ethiopia, Niue	7 (41.2%)
BAEF reports		
100% Completed	None	0
>75% Completed	Somalia	1 (5.9%)
50-75% Completed	None	0
25~50% Completed	None	0
< 25% Completed	Solomon Islands, Tonga, Bahamas	3 (17.6%)
Not yet initiated	Lesotho, Comoros, Maldives, Papua New Guinea, Guinea-Bissau, St. Kitts and Nevis, Republic of Yemen, Tuvalu, Democratic Republic of Timor-Leste, South Sudan, Ethiopia, Kiribati, Niue	13 (5.9%)
TAP reports		
100% Completed	None	0
>75% Completed	None	0
50-75% Completed	None	0
25~50% Completed	None	0
< 25% Completed	None	0
Not initiated	None of the 17 countries that responded to the Questionnaire has initiated their TAP reports yet	17 (100%)

2.2 EXPERIENCES AND LESSONS LEARNT

The following is a summary of country experiences and/or lessons related to project design and implementation.

2.2.1 THE IN-COUNTRY INSTITUTIONAL SET-UP

Like with TNA Phase I, II, and III, setting up an institutional framework for the TNA project in the countries is a key element of the TNA process. It has proved to provide the required legitimacy and project ownership, which improves not only the quality and usefulness of TNAs and TAPs for technology transfer, but also, the linkages with other ongoing national processes.

In the TNA IV project, countries have succeeded in constituting their Project Steering committees, and oftentimes countries utilize existing climate change coordination committees for this purpose. The National TNA Team consists of a National TNA Coordinator, the National Consultants, and Working Groups. Roles for each of them are clearly defined. Once the national team has been established, national capacity will be strengthened through national and regional capacity building workshops, for the latter, the TNA coordinator and two consultants participate. During the workshops, the participants receive training on methodologies and tools for conducting the TNA.

The in-country institutional elements and their exact nomenclature would depend on countries. For example, a country may decide to call the project steering committee a “National Advisory Committee” and it may utilize an existing committee, e.g. if there is a national Climate Change Committee already.

The National Steering Committee is envisaged as the guiding body of the project. The National Steering Committee should be comprised of members responsible for policy making from all relevant ministries as well as key stakeholders from the private sector. The National Steering Committee provides political acceptance to the TNA process within a country and will be responsible for political endorsement of the Technology Action Plan. The National Committees are expected to meet at least three times during the duration of the TNA project.

However, each element of the in-country institutional structure is designed to play an important role. Therefore, and in line with the previous TNA Phase I, II, and III, the composition of these national committees varies from one country to another. They include representatives from relevant ministries and/or agencies such as - Ministries of Environment and Natural Resources, Land, Agriculture, Forestry, Fisheries, Industry, Mines, Energy, Water Resources, Finance and Economic Planning, Public Works and Transport, Industry, Local Government, Rural Development, Health, Energy, Foreign Affairs and International Cooperation, Education, etc.

12 of the 17 participating countries nominated their National Designated Entity (NDE) to the UNFCCC Technology Mechanism as their TNA coordinators. For the remaining 5 countries², there is close coordination between the NDE and the TNA coordinator, as recommended by the TNA project, if there is an NDE.

2.2.2 REGIONAL CENTERS

The TNA project works with regional centers (RCs) in each of the regions (Francophone Africa, Anglophone Africa, Asia, Asia-Pacific and the Caribbean), to create a greater awareness about technology needs of the countries at the regional level, and to enhance capacities within the region. The regional centers, in close cooperation with UNEP-CCC, play a substantial role in providing technical support to the national TNA teams. The main responsibilities of the RCs and consultants includes:

1. Partner UNEP-CCC in the organization and facilitation of regional training workshops where participants from countries will be trained in the methodology for conducting the TNA;
2. Provide technical and process support to the countries within the region during the whole project implementation;
3. Provide participating countries with support through the help desk upon request of the countries throughout project implementation;
4. Review deliverables from countries to help improve quality of reports and compile a synthesis report.

For TNA Phase IV, the following RCs are involved:

- Francophone Africa: ENDA, Senegal;
- Anglophone Africa: University of Cape Town, South Africa;
- The Pacific: University of South Pacific, Fiji;
- Asia: Asian Institute of Technology, Thailand;
- Caribbean: University of West Indies, Jamaica;

The collaboration with the RCs is going as planned and in line with experiences from TNA Phase I, II and III with RCs handling above mentioned activities. Overall, countries responded positively on the support received from RCs. Countries, in the questionnaire, report that:

- *The technical support from ENDA ENERGIE from Senegal was very important! If there was a Portuguese version, it would be very good (Guinea-Bissau)*
- *There are no issues to report regarding the technical support received from the Advisor (at UN) and the regional support office. (St. Kitts and Nevis)*

² Tuvalu, Niue, Lesotho, Somalia, Yemen

- *UNEP-CCC provided us with all the needed technical supports, and we held one meeting with Cape Town university for MCA development consultation. We suggest to have this kind of meetings to discuss each project stage and its deliverables. (Republic of Yemen)*

2.2.3 CHALLENGES FACED DURING TNA PROJECT IMPLEMENTATION

One of the most commonly encountered challenges by the reporting countries is the active and lasting engagement of relevant stakeholders. This is a fundamental aspect of the TNA process and is especially required during the first stages with technology prioritisation.

In addition, countries reported that the global pandemic and its implications further compromised and constrained stakeholder participation. In many cases stakeholder meetings and workshops had to be conducted virtually instead of in-person, at the inception stage of the project. Here, oftentimes poor internet connection further constrained stakeholder engagement. However, we are now at a stage where activities are now normalised and expected to run as planned with in-person consultations.

To overcome stakeholder engagement challenges, sufficient time should be set aside, and effort made by the National Coordinator and consultants to ensure that the TNA process is a truly stakeholder-driven process. Everybody who has an interest in or is affected by the TNA process or by its results should be considered a relevant stakeholder. A specific TNA guidance document on how best to identify and engage the relevant stakeholders, entitled Identification and Engagement of Stakeholders in the TNA Process: A Guide for National TNA Teams, is provided to the TNA teams. Training in stakeholder engagement is also provided through the first regional workshop, however it is a recurrent challenge for countries.

Further to the challenges related to Covid-19 and stakeholder engagement, countries reported that the transitional changes from UDP to UNEP-CCC caused delays in the project implementation. The UNEP DTU Partnership (UDP) existed for 30 years as a UNEP Collaborating Centre, supporting the implementation of UNEP's climate change and energy programme. UDP was established and overseen by the Danish Ministry of Foreign Affairs (MFA), UNEP, and DTU. The partnership was legally and organizationally part of DTU. However, changes in DTU's priorities, led to a decision by the MFA, DTU and UNEP that a new host entity would better suit UNEP's need for world class technical support to partner countries. A process of separation from DTU was agreed by the parties in late 2021. As part of the separation agreement, UDP was re-named as the UNEP Copenhagen Climate Centre (UNEP-CCC) and placed under UNOPS administration as a separate entity. As such, all contracts previously held by DTU on behalf of UDP were transferred to UNOPS. This transfer caused some delays in the issuing of contracts to the respective TNA national consultants and/or the release of payments to the same.

Examples of how countries report the different challenges are provided below.

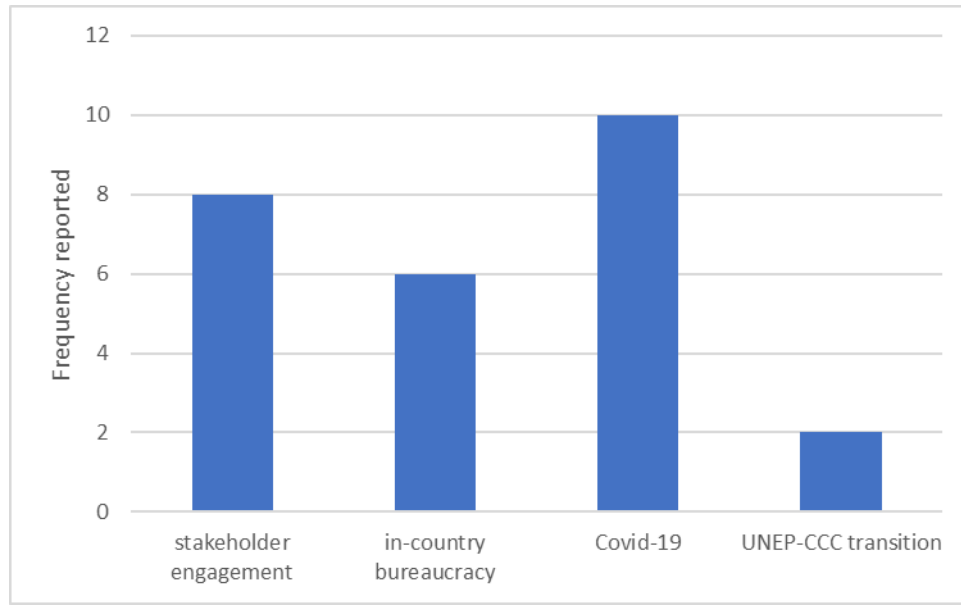
Stakeholder engagement

- *Liaising with the stakeholders takes longer than expected. Further, Covid-19 community transmission makes it even more difficult to organize face to face meetings in country. (Solomon Islands)*
- *Among the challenges is the mobilization and involvement of stakeholders. (Comoros)*
- *It was not at all easy to get them (stakeholders in general) to come to our meeting; because of the economic difficulties it was not easy to get them to come. Nevertheless, their contributions are very important for the project. (Guinea-Bissau)*
- *According to workshops that we have carried out so far, it's hard to get most of the stakeholders to attend TNA workshops. (Tuvalu)*
- *Due to the armed conflict in Yemen, all climate change activities were influenced and almost no activity under climate change had been conducted from 2015 until the beginning of 2021. Therefore, it was a big challenge for us as the TNA team to effectively engage all the stakeholders from all the sectors and Yemeni cities in one place. However, the TNA team passed this obstacle with unexpected outputs. The stakeholders from all the relevant stakeholders participated effectively and efficiently in the TNA workshops and provide excellent input to the work as most of them have a solid experience in the sectors under TNA. The Lesson learned how to select the right participants and how to ask the institutions under the selected sector to nominate the right representatives and consultants, as the stakeholder engagement is the key success of TNA (Republic of Yemen)*

In-country bureaucracy

- *Initial challenges of the project include procurement of the national experts and engagement of stakeholders due to the COVID-19 restriction. Several rounds of procurement process had to be carried out for the recruitment of the national experts and conducting working group meetings and performing the multi criteria analysis were also a challenge. Additionally, delays in the re-contracting process are also a major challenge. As we are yet to sign the new PCA, legal formalities would need to be completed and the contracts of the national experts would need to extend and this would eventually impact on the completion of the deliverables. (Maldives)*
- *There have been internal challenges, with changes in administration. Consultants were not reporting through the appropriate channels. This has since been corrected. (Bahamas)*
- *Signing off with the Contract at initial stage by senior government officials were too bureaucratic. (Solomon Islands)*
- *One of the main challenges that I have faced during the implementation of the project is the delay in the signing of contract. It took a year waiting for an approval of the national consultants contracts from the Ministry of Finance (Tuvalu)*

Figure 1. Challenges experienced thus far during project implementation, frequency represent no. of countries



Finally, one country has also experienced challenges with political instability, the Republic of Yemen, who reports in the questionnaire that.

- *Due to the armed conflict in Yemen, all climate change activities were influenced and almost no activity under climate change had been conducted from 2015 until the beginning of 2021. Therefore, it was a big challenge for us as the TNA team to effectively engage all the stakeholders from all the sectors and Yemeni cities in one place. However, the TNA team passed this obstacle with unexpected outputs. The stakeholders from all the relevant stakeholders participated effectively and efficiently in the TNA workshops and provide excellent input to the work as most of them have a solid experience in the sectors under TNA. (Republic of Yemen)*

Returning to stakeholder engagement, and specifically of the private sector engagement, private sector participation at inception of the project is key and for many countries also a matter of concern for stakeholders, since it is the technology providers from the private sector that are most familiar with barriers for technology diffusion and uptake in their country.

In some countries, the private sector has already shown keen interest in the identification of technologies.

Further, even countries that experience political instability and conflict have reported successful engagement and secured buy-in of private sector stakeholders.

- *The private sector engaged in our TNA workshop in Yemen, especially the cement industry, big industries, car importers, private electrical power plants and etc. In this stage of TNA the participation of the private sector was limited to those who highly uses or needs power and the car traders. Whereas, in the next stage, the financial institutions will be engaged to*

identify the barriers that hinder the mainstreaming of the option that was selected under TNA into the sectoral policies. (Republic of Yemen)

Countries are in most cases also yet to achieve the desired participation of financial institutions, development partners and other relevant private sector stakeholders. The engagement with the respective actors was further troubled by the implications arising from the global Covid-19 pandemic. However, efforts are in place to progressively increase their participation especially as we move towards the BAEFs and TAPs, including increased communication and dissemination of the TNA project at the national level, but also through arranging round table discussions with financial institutions, development partners and private sector representatives once these milestones are near completion.

Some countries, for example St. Kitts and Nevis, receive further support on this from the regional institutions at present, such as the regional centre (UWI), which is represented in the technical working groups. Tuvalu notes, in the MTR questionnaire, that although the private sector is currently involved in the TNA process, it is oftentimes difficult to get the stakeholders to attend the sessions. As a result, the local experts aim to engage in further one on one consultations to ensure engagement of all relevant stakeholders.

Guinea-Bissau states that the private sector engagement is currently limited due to a lack of funding. *'The national private sector is still waiting to receive funding from outside. As for the donors, in my opinion, they are not yet sensitive to the Project.'*

As the TNA process continues, engagement of private sector stakeholders increases. For example, one country notes that

- *We have also engaged the Solomon Islands Chamber of Commerce & Industry, the private sector representatives in the country. Their engagement provides positive pathway future collaborations. (Solomon Islands)*

2.2.4 TNA TRAINING AND SUPPORT MATERIAL

Most of the countries that answered the questionnaire and have reached a point within the project implementation that required training and technical guidance have reported that they considered the support and material (e.g., guidebooks) provided as useful. These tools include updated/improved TNA handbooks and guidebooks, databases, internet resources and the help desk.

All the support material is available through the project website www.tech-action.org and is also shared with participants through Dropbox prior to each regional workshop.

In the MTR questionnaire, countries for example noted that:

- *We have downloaded all eBooks and are in use, they are very helpful in guiding the process. (Lesotho)*
- *Good information on the processes (Somalia)*

- *We have received adequate support to prepare our TNA report. We will still need this support towards development if our TAP report. (Solomon Islands)*
- *There are no issues to report regarding the technical support received from the Advisor (at UN) and the regional support office (UWI). (St. Kitts and Nevis)*

In addition, countries also reported that the technical assistance and guidance could be strengthened and in some cases translated to the country language. Amongst others, countries noted that:

- *The technical support from ENDA ENERGIE from Senegal was very important! If there was a Portuguese version it would be very good (Guinea-Bissau)*
- *The UDP provided us with all the needed technical support, and we held one meeting with Cape Town university for MCA development consultation. We suggest to have this kind of meeting to discuss each project stage and its deliverables. (Republic of Yemen)*
- *I suggest that the technical support be strengthened on the preparation of the reports until their validation (Comoros)*

2.2.5 GENDER-RESPONSIVE APPROACH TO THE TNA PROCESS

As a continuation of the learning from previous TNA's, TNA IV continues to set a strong focus on a gender-responsive approach through the project implementation. This gender approach has been mainstreamed into all capacity building modules. The MTR survey did not ask specifically for countries to report on gender aspects. The gender distribution for TNA Coordinators is well balanced, with 53 percent male and 47 percent female (9 male/8 female). When looking at the total number of consultants hired so far, 29 percent are female (6 consultants out of 21) and 71 percent are male consultants (15 out of 21).

2.2.6 CAPACITY BUILDING WORKSHOPS

TNA Phase I and II had two capacity building workshops per region. Based on the feedback from participants in those initial phases, the TNA Phase III project successfully allocated more time for capacity building and therefore three regional capacity building workshops per region were undertaken. Following the success of this approach, TNA Phase IV continues to allocate time and resources for 3 capacity building workshops in each of the regions.

In each of the workshops, three workshop participants, being the TNA Coordinator and two national consultants represent the participating countries. These workshops are organized by UNEP-CCC in collaboration with the regional centers (RCs).

The **first** regional workshop focus on TNA methodologies for technology prioritization and for stakeholder engagement, and included also training on TNA reporting template, technology fact sheets, Multi-Criteria Analysis tool (MCA) and stakeholder engagement.

The **second** regional capacity-building workshop focus on barrier analysis, enabling environment and communication and dissemination of TNAs at the national levels.

The **third** regional workshop focus on the development of technology action plans (TAPs), project ideas and project concept notes.

For TNA IV, the first capacity building workshops focusing on the development of the TNA reports were held in 2020 and 2021,. Due to the prevailing COVID-19 global pandemic, the workshops had to be conducted virtually.

The feedback from the countries collected through the MTR survey is that the workshops are very useful for the implementation of the project. However, it was noted that the virtual workshops make it more challenging to actively engage. Amongst others, countries made the following statements:

- *There were no difficulties at the national level during the training given by ENDA ENERGIE at the start of the project. On the other hand, the difficulties encountered at the regional level are related to the connection via internet, and of course the level of information capture "online" is not the same as in person. (Guinea-Bissau)*
- *Although the session was virtual, it was well received. However, it is evidenced that there is greater benefit in the engagement when stakeholders meet in person. (St. Kitts and Nevis)*
- *The workshop was helpful in guiding us to initiate the TNA process and how each activity needed to be complete in accordance to the global timeline and guide. (Maldives)*
- *The training workshop was important for the TNA team as they learned the process of technology selection, criteria selection, and MCA model development. The TNA team in the inception workshop conducted an exercise for the participants on how to use multi- criteria analysis and how to select the technology option in each sector which reflected successfully on the progress of technology selection. (Republic of Yemen)*

The second and third regional workshops will be held as in-person workshops.

2.2.7 NUMBER OF TARGETED BRIEFING NOTES

In addition to national consultative meetings to raise awareness amongst stakeholders on the importance of the TNA project and involve stakeholders in the process, countries are required to prepare briefing notes for their national stakeholders.

Through the MTR questionnaire, most countries have not yet reached the stage where they have prepared briefing notes to the national and/ or sectoral decision makers. Four (4) out of seventeen (17) countries reported that they have prepared and disseminated national briefing notes or updated PowerPoints on the TNA project. For example, Solomon Islands reported that they “developed more than 10 presentations to stakeholders, decision makers on the TNA processes.” Further, Comoros submitted six (6) power point updates.

In addition, the Republic of Yemen reported that *“TNA provides many letters to the national decision-makers about TNA. Moreover, the TNA team presented the TNA outcomes to the steering committee which is chaired by the minister of the water and environment.”*

2.2.8 ALIGNMENT OF TNA/TAP WITH NATIONAL PRIORITIES AND PLANS

Embedding the TNA and TAP results in existing sector-specific and other ongoing plans and activities, such as those related to the Nationally Determined Contributions (NDCs), is of paramount importance in enhancing the options for the implementation of these processes.

Thanks to the information that TNAs provide about the potential, ability and scale of climate change technologies, they can play a unique role in the formulation and implementation of NDCs. Actions identified in the TAPs highlight what needs to be done to activate robust market systems and the enabling conditions for technology transfer, diffusion and uptake. These actions can in turn strengthen longer-term strategies elaborated in NDCs and national adaptation plans (NAPs), as well as potentially increasing ambitions by making the means of implementation more concrete.

One third of the countries that responded to the questionnaire (5) responded that the TNA is already directly linked with their NDC, one country (Comoros) has already integrated its TNA results into its updated NDC, while another country (St. Kitts and Nevis) specified that: *‘the office of the TNA Coordinator coordinates the NDC Implementation Plan, the Climate Change Policy, the Climate Change Adaptation Strategy, the Third National Communication and First Biennial Update Report.’*

In addition to the processes mentioned above, countries specify their national climate strategies and national plans and policies as key for the TNA process. Both in terms of taking these as starting points, but also for using the TNA /TAP to feed into strategic planning and implementation.

Since countries are just at the completion of the first TNA step, and the initiation of the second TNA step, barrier analysis and enabling frameworks, the linkages and synergies between TNAs and TAPs with other national processes will be further enhanced, once countries reach the third step, the TAP preparation.

3. FINANCIAL MANAGEMENT

The project’s financial delivery is on track overall.

The current overall expenditure is 26% (USD 1,186,112 against a total budget of USD 4,590,000) as of end of year 2022. The project is 26 months into implementation (December 2022) with a total project implementation period originally of 36 months but extended to 44 months up to May 2024.

Furthermore, the co-finance contributions reported from the beginning of the project until December 2022 is \$317,500, out of \$1,535,000 (21%), as follow:

- UDP's cash co-finance (\$75,000 out of \$150,000): it primarily consists of providing technical expertise (i.e., for design, review and improvement of trainings, tools and methodologies, review of reports/outputs, as well as preparation of a new TNA website).
- All countries have committed their in-kind co-finance (\$212,500 out of \$425,000): it is estimated at 25,000 USD/country over the duration of the project - through government staff time (national coordinator, members of the TNA committee and working groups) and the provision of logistical support (including venues) for stakeholder meetings, national TNA Steering Committee meetings.
- UNEP's in-kind co-finance (\$30,000 out of \$50,000): UNEP's co-finance mainly consists of staff time to support project management and offer strategic/technical advice/guidance (notably when issues arise with some of the participating countries).
- CTCN has committed \$910,000 in-kind co-finance but the report was still in draft by the completion of this MTR: the planned consists of staff-time/expertise by participating in global and regional TNA related events, responding to countries' technical assistance requests, facilitating access for participating countries to knowledge and information, disseminating TNA results and promoting TAP implementation reports.

4. RECOMMENDATIONS FOR THE REMAINING DURATION OF THE PROJECT

In view of the feedback received, challenges and outstanding activities, the following recommendations are made for the remaining duration of the project:

- TNA Phase IV started implementation under the global Covid-19 pandemic. Many of the countries experienced lock downs and limitations to in-person meetings. The implications of these conditions are that many countries in TNA Phase IV have had a long inception period, and some are still to significantly start up TNA activities as countries have had a long back log of pending activities that were postponed. For the next period of the project, UNEP-CCC and regional centres will have increased focus on supporting those countries that have not yet started, and organise support missions where needed. In addition, regular follow up calls and emails will be conducted.
- Countries will continuously be encouraged to develop and disseminate targeted briefings for decision makers (public and private) as well as donors and development partners. Targeted briefings can both help in getting decision makers commitment for implementing TAP and project ideas, and mainstreaming climate technologies into plans, policies and strategies. The TNA project has provided training in preparing the briefs as well as a template.
- The UNEP and UNEP-CCC team will continue to provide guidance and information on what opportunities are there to move from TAP to implementation, pointing at different options depending on the priorities and barriers to address (e.g. CTCN for targeted technical assistance, GEF for pilots, GCF for paradigm shifting projects/programmes, AF for Adaptation projects, national budget and in-country donors/development partners...). To further enhance visibility and recognition of TNAs/TAPs as a means for countries to prepare solid projects, events are

being organised, virtually and in person such as during COP, to share examples of how countries have used the TNA project as a catalyser for achieving funding for technology implementation.

- UNEP-CCC continuously monitors implementation examples of previously completed TNAs/TAPs. By sharing such examples and evidence, it facilitates learnings and experience sharing, as well as motivation, to countries in TNA IV who are currently in their TNA/TAP process.
- The Global Kick-off Workshop was postponed due to the global Covid-19 pandemic and is planned to take place in the first quarter of 2023 with an overlap with the Global Experience Sharing Workshop for TNA III countries. This will allow for peer learning and experience sharing between TNA Phase III and IV countries.

5. CONCLUSIONS

The TNA Phase IV is structured with one outcome and two outputs as listed below.

Outcome 1: Technology Needs Assessments (TNA) and development of Technology Action Plans (TAP) will ensure dissemination of Environmental and social safeguards through tools and network activities and, the production of TNAs and TAPs offers the opportunity to ensure the strengthening of, and compliance with, Environmental and social safeguards in the technology transfer market.

Output 1: Tools, methodologies and capacity building packages are further developed and applied to support the implementation of the TNA/TAP process

Output 2: TNA and TAP reports completed, including project ideas, with national consensus on concrete actions for implementation

The following draws the main conclusions from the MTR with respect to the outcome and outputs.

OUTCOME 1

TNA process conducted by national stakeholders, and TNA/TAP results are available to be integrated into national planning processes and to be funded and implemented by interested stakeholders.

The project implementation status of the different activities under outcome 1 of the TNA IV varies between the countries. The majority of the participating countries are well on their way towards delivering the outputs that contribute towards achieving the project outcome. However, some countries are experiencing challenges in the procurement and contracting of consultants, as well as in the buy-in and engagement of relevant stakeholders, ultimately delaying the project implementation.

At the time of the MTR, December 2022, the progress on milestones and related indicators are reflected in Table 2 below. As can be seen 17 TNA coordinators have been nominated, and national consultants have been contracted in 15 countries. TNA Committees and working groups have been established in 17

countries. 2 countries, Niue and Kiribati, are still to recruit national consultants. 5 out of 9 regional capacity building workshops, and 15 out of 34 national capacity building workshops have been held. Activities related to Indicator 2 will be initiated upon completion of TAP reports at the last stages of the project implementation period.

Table 2. Status on milestones, Outcome 1

Outcome 1: TNA process conducted by national stakeholders, and TNA/TAP results are available to be integrated into national planning processes and to be funded and implemented by interested stakeholders.				
Outcome Indicators	Baseline	Targets and Monitoring Milestones	Means of Verification	Status at MTR
Indicator 1: Number of national institutional structures for TNA established, operational and strengthened to conduct the TNA-TAP process	Baseline 1: 0 national institutional structures for TNA	Target 1: 17 national institutional structures for TNA established, operational and strengthened to conduct the TNA-TAP process (by end of project)	Indicator 1: Nominations of national TNA coordinators, contracts of national experts, official government circulars establishing the national TNA committees, lists of members of TNA working groups 12 regional TNA/TAP capacity building workshop reports and feedback questionnaires and 34 national TNA/TAP capacity building workshop reports	Indicator 1: - 17 national TNA coordinators nominated, - national consultants contracted in 17 countries - 17 TNA Committees established - 17 TNA working groups established - 15 national workshops completed - 3 regional TNA capacity building workshop reports and feedback questionnaires completed
Indicator 2: Number of national TNA/TAP dissemination and donor engagement workshops with prepared advocacy materials for policy makers, donors and investors	Baseline 2: 0 national dissemination and donor engagement workshops with prepared advocacy materials	Target 2: 17 national dissemination and donor engagement workshops, with at least 30% female participants each (by end of project)	Indicator 2: 17 Reports from national TNA teams on national dissemination events (including lists of participants disaggregated by gender, letter of submission of projects from TNA/TAP to funders)	To be initiated upon completion of TAP reports

Furthermore, as reported in this mid term review by the participating countries, several countries are already actively using their TNAs, even they are still at the first step in the project, in the preparation of updated NDCs, and so forth.

There is generally a very high awareness and recognition of the TNAs and TAPs in countries, and even further recognition of their usefulness for other national processes. In addition, the awareness of how TNA Phase I, II and III countries continue to utilize their TNAs and TAPs for implementing government measures, and accessing funding for implementation of TAPs, all contribute towards reaching the stated outcome of TNA Phase IV.

OUTPUT 1

Tools, methodologies and capacity building packages are further developed and applied to support the implementation of the TNA/TAP process.

Some of the tools and methodologies, as well as the capacity building packages developed during TNA Phase I, II and III, have been updated during Phase IV. This includes the 'TNA Step-by-Step' guidebook, where transformational change aspects have been integrated.

In addition, new guidebooks have been developed, including a guidebook on 'Indigenous Peoples and Climate Technologies' and a guidebook on 'Transformational Change and TNAs'.

All workshop material is renewed and updated before the capacity building workshops (presentations, exercises, and material for break out discussions) and for the national training workshops.

The project is on track in delivering this output. The existing, updated, and new training material has been very well received, and is used by all the countries participating in the TNA Phase IV project.

OUTPUT 2

TNA and TAP reports, including project ideas, with national consensus on concrete actions for implementation

All countries have engaged national steering committees to ensure national and political endorsement of the TNAs and TAPs. However, the majority of countries have not yet completed their first deliverables of the project: the TNA reports. This is mainly due to challenges related to Covid-19, in-country bureaucracy as well as difficulties in stakeholder mobilization (as discussed in section 2.2.3).

Furthermore, only two (2) of the countries that responded to the survey have initiated the development of their second deliverable, the Barrier Analysis and Enabling Framework report. There is a delay for most countries. The delays were caused by the above-mentioned reasons during the submission of the TNA report. However, the countries are now submitting their first deliverables. Henceforth, the project is viewed as behind schedule and would probably require an extension of an additional year to complete project implementation. The revised timeline will be discussed and agreed with the Steering Committee Members.

ANNEX II: STATUS OF THE 17 PARTICIPATING COUNTRIES

Completed		Close to completed	Initiated	Not initiated
Country name	Status on OUTPUT 2: TNA and TAP reports, including project ideas, with national consensus on concrete actions for implementation			
	2.1 TNA reports are developed/updated and approved	2.2 Barrier Analysis & Enabling Framework (BAEF) reports are developed and approved	2.3 TAP reports (including project ideas) are developed and approved	2.4 Project concepts are developed and approved
Bahamas	Initiated (25-50%)	Not initiated	Not initiated	Not initiated
Lesotho	Initiated (50-75%)	Not initiated	Not initiated	Not initiated
Solomon Islands	Close to completion (>75%)	Initiated <25 %	Not initiated	Not initiated
Comoros Union	Completed	Not initiated	Not initiated	Not initiated
Maldives	Completed	Not initiated	Not initiated	Not initiated
Papua New Guinea	Initiated (25-50%)	Not initiated	Not initiated	Not initiated
Guinea-Bissau	Initiated (50-75%)	Not initiated	Not initiated	Not initiated
St. Kitts and Nevis	Initiated (25-50%)	Not initiated	Not initiated	Not initiated
Republic of Yemen	Close to completion (>75%)	Not initiated	Not initiated	Not initiated
Tuvalu	Initiated (50-75%)	Not initiated	Not initiated	Not initiated
Timor-Leste	Initiated (25-50%)	Not initiated	Not initiated	Not initiated
Somalia	Close to completion (>75%)	Close to completion (>75%)	Not initiated	Not initiated
South Sudan	Initiated (25-50%)	Not initiated	Not initiated	Not initiated
Niue	Not initiated	Not initiated	Not initiated	Not initiated
Kiribati	Initiated (10 – 25%)	Not initiated	Not initiated	Not initiated
Ethiopia	Initiated (25-50%)	Not initiated	Not initiated	Not initiated
Tonga	Initiated (25-50%)	Not initiated	Not initiated	Not initiated

ANNEX II: RESULTS FRAMEWORK

Project Objective	Objective level Indicators	Baseline	Targets and Monitoring Milestones	Means of Verification	Assumptions & Risks	UNEP MTS reference
Provide targeted financial and technical support to prepare new or updated and improved TNAs, including TAPs, for prioritized technologies that reduce greenhouse gas emissions, support adaptation to climate change, and are consistent with Nationally Determined Contributions and national sustainable development objectives	<p>Indicator A: Number and status of TNAs and TAPs</p> <p>Indicator B: Number of TAP follow-up project concepts with letters of intents from the Government and financiers</p> <p>Indicator C: Number of countries that have integrated gender considerations into their TNA and TAPs</p>	<p>Baseline A: 0 Second Generation TNAs or TAPs endorsed by governments</p> <p>Baseline B: 0 technology project concepts available from TAPs</p> <p>Baseline C: 0</p>	<p>Target A: 17 Second Generation TNAs and TAPs endorsed by governments (by end of project)</p> <p>Target B: 17 project concepts prepared based on TAPs (by end of project)</p> <p>Target C: At least 15 countries</p>	<p>Indicator A: TNA reports, including TAPs</p> <p>Indicator B: Letters of intent from government, donors and/or financiers to support implementation of project concepts based on TAPs</p> <p>Indicator C: evidence of gender inclusion / mainstreaming in the TNAs and TAPs Reporting and final evaluation requested by UNEP</p>	Competing national and political priorities	<p><i>UNEP Medium Term Strategy 2020-2021</i></p> <p><i>Programme of Work 2020-2021's Sub-programme 1 Climate Change objective: Countries increasingly make the transition to low-emission economic development, and enhance their adaptation and resilience to climate change</i></p>

Project Outcome	Outcome Indicators	Baseline	Targets and Monitoring Milestones	Means of Verification	Assumptions & Risks	MTS Expected Accomplishment
Outcome 1: TNA process conducted by national stakeholders, and TNA/TAP results are available to be integrated into national planning processes and to be funded and implemented by interested stakeholders.	<p>Indicator 1: Number of national institutional structures for TNA established, operational and strengthened to conduct the TNA-TAP process</p> <p>Indicator 2: Number of national TNA/TAP dissemination and donor engagement workshops with prepared advocacy materials for policy makers, donors and investors</p>	<p>Baseline 1: 0 national institutional structures for TNA</p> <p>Baseline 2: 0 national dissemination and donor engagement workshops with prepared advocacy materials</p>	<p>Target 1: 17 national institutional structures for TNA established, operational and strengthened to conduct the TNA-TAP process (by end of project)</p> <p>Target 2: 17 national dissemination and donor engagement workshops, with at least 30% female participants each (by end of project)</p>	<p>Indicator 1: Nominations of national TNA coordinators, contracts of national experts, official government circulars establishing the national TNA committees, lists of members of TNA working groups 12 regional TNA/TAP capacity building workshop reports and feedback questionnaires and 34 national TNA/TAP capacity building workshop reports</p> <p>Indicator 2: 17 Reports from national TNA teams on national dissemination events (including lists of participants disaggregated by gender, letter of submission of projects from TNA/TAP to funders)</p>	<p>Assumptions:</p> <ul style="list-style-type: none"> - Adequate national support to the process - Interested and active stakeholders - Access to data and relevant information - Availability of finance <p>Risks:</p> <ul style="list-style-type: none"> - Inadequate human resources and partnerships - Inactive stakeholders in countries - Low data availability and access to data - Competing national priorities 	<i>Expected Accomplishment (b) Countries increasingly adopt and/or implement low greenhouse gas emission development strategies and invest in clean technologies</i>

Project Outputs	PoW Output
<p>Output 1: Tools, methodologies and capacity building packages are further developed and applied to support the implementation of the TNA/TAP process</p> <ul style="list-style-type: none"> • Sub-Output 1.1: Methodologies, guidance and tools for technology needs assessments and action plans covering both adaptation and mitigation aspects are updated / developed • Sub-Output 1.2: Strengthened national capacities for conducting the TNA/TAP process • Sub-Output 1.3: Information, lessons learnt and results generated through TNA/TAP processes are disseminated and communicated 	<p><i>Output 3: Technical support provided to countries to develop tools, plans and policies for low-emission development.</i></p>
<p>Output 2: TNA and TAP reports, including project ideas, with national consensus on concrete actions for implementation</p> <ul style="list-style-type: none"> • Sub-Output 2.1: TNA reports are developed/updated and approved • Sub-Output 2.2: Barrier Analysis & Enabling Framework reports are developed and approved • Sub-Output 2.3: TAP reports (including project ideas) are developed and approved • Sub-Output 2.4: Project concepts are developed and approved • Sub-Output 2.5: TNA/TAP results and communicated and disseminated 	<p><i>Output 3: Technical support provided to countries to develop tools, plans and policies for low-emission development.</i></p>