Fourteenth meeting of the Technology Executive Committee

United Nations Campus (AHH building), Bonn, Germany
28–31 March 2017

Background note

Draft methodology on monitoring and evaluation of the implementation of technology needs assessment results

I. Background

1. The Technology Executive Committee (TEC) agreed to include in its rolling work plan 2016–2018, a task to prepare a draft methodology on how to monitor the technology needs assessments (TNAs) results, including what such monitoring should include, with a view to showcasing success stories.

2. The TEC task force on TNAs has developed an outline of the methodology for monitoring TNA results.[1] The TEC considered the outline of the methodology for monitoring TNA results, at its thirteenth meeting

3. The TEC 13 agreed to change the outline draft methodology to a TEC working paper, and proposed to prepare a draft methodology on monitoring and evaluation of the implementation of TNA results for its further consideration in 2017.

II. Scope of the note

4. This note provides a draft methodology on monitoring and evaluation of the implementation of technology needs assessment results, to assist in creation of an effectively working monitoring system of the implementation of TNA results, including TAPs. This will assist in the identification of implemented TAPs and of factors that contribute towards TAPs implementation, to assist in showcasing of success stories and good practices from TNA implementation of developing countries, and to assist the TEC in delivering relevant key messages and recommendations to Parties through the COP 23.

III. Expected action by the Technology Executive Committee

5. The TEC will be invited to consider and agree on the methodology on monitoring and evaluation of the implementation of TNA results, and any appropriate follow-up activities for undertaking such monitoring.

[1] <http://unfccc.int/ttclear/misc_/StaticFiles/gnwoerk_static/TEM_TEC_meetings/db5f157e659542b78cc4a8d1bf278b99/5ea7f123502e4547a98674d97fa6481f.pdf>.

United Nations
Framework Convention on
Climate Change

Annex

Draft methodology on monitoring and evaluation of the implementation of technology needs assessment results

Contents

I. .Summary

1. The purpose of tracking the progress of TNA and TAP progress would be *primarily* to highlight and share success stories and lessons learned. In addition, it would be of comparable interest to identify cases that were less than successful and identify the obstacles encountered.

2. *Secondary* purposes for such tracking would be to increase awareness of progress by some countries and to identify and communicate their resource needs to advance further.

3. Processes for tracking progress could range from the informal collection of information to rigorous data gathering.

4. Six types of information are recommended as offering significant potential for gathering "lessons learned" from TNAs and TAPs:

- Definition of underlying problems, including barriers to progress;
- Identification of strategy, tactic, project or activity ("initiatives" or TAP actions) to address the underlying problems;
- Linkage of such initiatives to other processes and plans, including national plans and processes under the UNFCCC;
- Current status and results of initiatives;
- Contact information and additional information resources;
- Next steps and needed resources to make progress.

5. This paper explores different methods (levels) of progressively more formal tracking and proposes two tracking options for TEC consideration:

- Option I – a voluntary, collegial exchange of information between countries and UNEP-UDP, or UNFCCC that would be edited, summarized, and shared. This would likely require small amounts of incremental resources and result in "promotion materials" similar to those distributed and favorably received at COP 22. (Within this paper this option is called ***"Option I-Headlines Plus Supplementary Information"***;
- Option II – a voluntary, collegial but possibly incentivized and proactive gathering of information that allows for multiple "back and forth" to assure the completeness and reasonableness of the reported information. Such an approach would intuitively require additional resources. For this paper this is referred to as ***"Option II-Headlines, Supplementary Information and Follow-up for Completeness"***.

6. It is recommended that analysis and consultations regarding these options be undertaken by UNEP-UDP, or UNFCCC between April and August 2017. The analysis would be to re-construct the level of effort required to prepare and organize some number of TNA-TAP. Additional level of effort estimates would be incorporated to bring these examples first to the level of the proposed Option I-Headlines Plus Supplementary Information.

7. The consultations would then aim to determine the incremental additional effort to expand these examples to the more complete Option II. It is also recommended that different preparation and reporting relationship options be explored during this time with a representative sample of countries to determine the challenges and opportunities such regular "tracking of progress" would imply.

II. Introduction

8. Four steps characterize Technology Needs Assessments:

- Step 1 – Sectors identification and the setting of climate and development priorities for the country and the sectors;
- Step 2 – Identification and prioritization of technologies for mitigation, adaptation and development at a desired scale;
- Step 3 - Identification of barriers and enablers to technology implementation at the desired scale;
- Step 4 – Preparing Technology Action Plans (TAPs) including the identification of implementation projects and activities.

9. In the *Good Practice* paper by the Secretariat,[2] it was suggested by practitioners that implementation of TNA results (technologies) could be supported by harmonizing and streamlining TNAs and TAPs with other processes under the Convention such as NAMAs and NAPs. Recently, the TEC prepared a paper on interlinkages between TNAs and NDCs under the Paris Agreement.[3] While this harmonizing and streamlining discussion mainly focused on realizing efficiency gains between the processes, it was explicitly argued that harmonizing and streamlining TNAs with other processes would lead to enhanced implementation of TNA results. For example, when prioritised technologies are considered for inclusion in a NAMA or NDC, then implementation of the NAMA or NDC would lead to implementation of the TNA and TAP prioritized technologies.

10. Of particular interest are the linkages between and among different processes, programs and activities; for example: *"Monitoring of progress in achieving NDC targets should integrate monitoring of the implementation and impacts of TNA results."*.[4]

11. This present paper covers:

- WHY consider tracking TNA and TAP progress? Previous discussions and papers are cited. Primary and secondary reasons are considered;
- WHAT information would likely meet the purposes of tracking TNA and TAP progress? Six categories types of information are suggested and examples, when offered;
- HOW could this information be accumulated? Two realistic options are considered and a template outlined;
- HOW could these options be tested? A suggested scope and timetable is offered;
- WHO should report to WHOM? Different choices are presented.

III. Objectives

12. The objectives of the paper are to:

- Facilitate creation of an effectively working monitoring system of the implementation of TNA results, including TAPs;
- Assist in identification of implemented technology action plans (TAPs) and of factors that contributed towards TAPs implementation;
- Assist in showcasing of success stories and good practices from TNA implementation of developing countries;
- Assist the TEC in delivering relevant key messages and recommendations to Parties through the COP-23.

13. This paper introduces a series of discussion points to be considered by the TEC at its 14th meeting in deciding how to "track" the progress of Technology Needs Assessments and Technology Action Plans (TNAs and TAPs) implementation after their completion. It builds further on the paper TEC/2016/13/8, Outline of the methodology for monitoring the results of TNAs.

14. These discussion points include: what is meant by "tracking" TNAs and TAPs and how this is different from "Monitoring and Evaluation"; why such tracking should be considered; the types of information that could meaningfully inform such tracking; options for gathering such information; and, a recommendation on choosing between two options and testing the benefits and challenges of each

IV. Why consider tracking TNA and TAP progress?

15. At TEC 13 (September 2016) it was agreed to prepare a methodology to monitor and evaluate implementation progress regarding TNA results. For the purpose of this paper the term *"tracking"* of progress is used rather "monitor and evaluate" or "M&E". This broader term allows for examining a succession of progressively more rigorous options, from the informal to the formal, a designation less prescriptive than "M&E".

[2] TEC/2014/9/5 Draft paper on good practices with TNAs.

[3] TEC/2016/13/6 Draft paper on linkages between the TNA and NDC process.

[4] <http://unfccc.int/ttclear/misc_/StaticFiles/gnwoerk_static/TEM_TEC_meetings/6ae9ca9c5882472e94b23c522b6ded34/71375cfd955a446db561dba61fd96c2f.pdf>.

16. An important reason for considering a tracking process for TNA results is that usually in TNA processes detailed information is provided about what technologies are prioritized by a country, but not whether and how these options have been implemented and how successful.

17. A TNA process finishes with the completion of TAPs as a document with which country stakeholders should be able to use to prepare for investments. Tracking of the results of a TNA, i.e. implementation of priority technologies, is *not* part of the TNA process as operated by the Global TNA process. In a paper for the Global TNA Workshop in 2011, the Secretariat presented implementation results of TNAs conducted between 1999 and 2009, based on a questionnaire sent to TNA coordinators.

18. As part of a paper on Good Practice with TNA by the Secretariat in 2014[5] thirty international practitioners were consulted about the, in their view, implementation potential of technology portfolios put together in the first round of the Global TNA Project (2009-2013). They concluded, on the basis of the TAPs reviewed, that most TAPs contained insufficient information to be considered investment proposals for potential funders to consider. In order to support implementation of TNA results, a new guidance was developed for preparing TAPs[6], which contained a set of minimally required questions and information sources for potential investors to consider whether a technology project, a technology support activity or specific cost item fit within their investment criteria.

19. A primary benefit of tracking results of TNAs and TAPs is that it would enable learning from success stories or stories about success but with obstacles to overcome, as well as stories explaining how a priority technology, despite the TAP efforts, could not be implemented at the desired scale. Such learning can benefit the overall TNA process as well as other processes under the Convention with its learning experience, but can also provide insights on where particular additional support mechanisms may be required for supporting developing countries with implementing technologies for climate and their developments, within a TNA context but also in the context of other processes under the Convention such as NDCs.

20. As noted the purpose of such tracking would be ***primarily*** to highlight and share lessons learned. This could include three kinds of "stories:

- "Success Stories";
- "We Managed—Just Barely—Stories", and
- "We Struggled and Need Help" Stories.

21. Secondary purposes include:

- Increasing awareness of exceptional progress by some countries;
- Identifying their (resource) needs to advance further;
- Making donors, investors and others aware of both progress and the needs to advance further.

22. Since the Global TNA workshop (June 2011), there has also been a discussion on harmonizing TNAs with other processes under the Convention, such as NAMAs and NAPs, and after COP-20/21 with INDCs and NDCs. The main rationale for such harmonization is that the processes have in common the aim to identify measures, options, actions for climate change mitigation and adaptation that are in line with countries' national sustainable development objectives.

23. In a number of papers prepared by the TEC, together with the secretariat, commonalities and differences between the processes have been examined. For example, an important scope for harmonization is the engagement with stakeholders, through participatory processes, in setting priorities among options and formulation of action or investment plans. Harmonization of processes enables countries to use output from a TNA step as input for say an NDC (and the other way around).

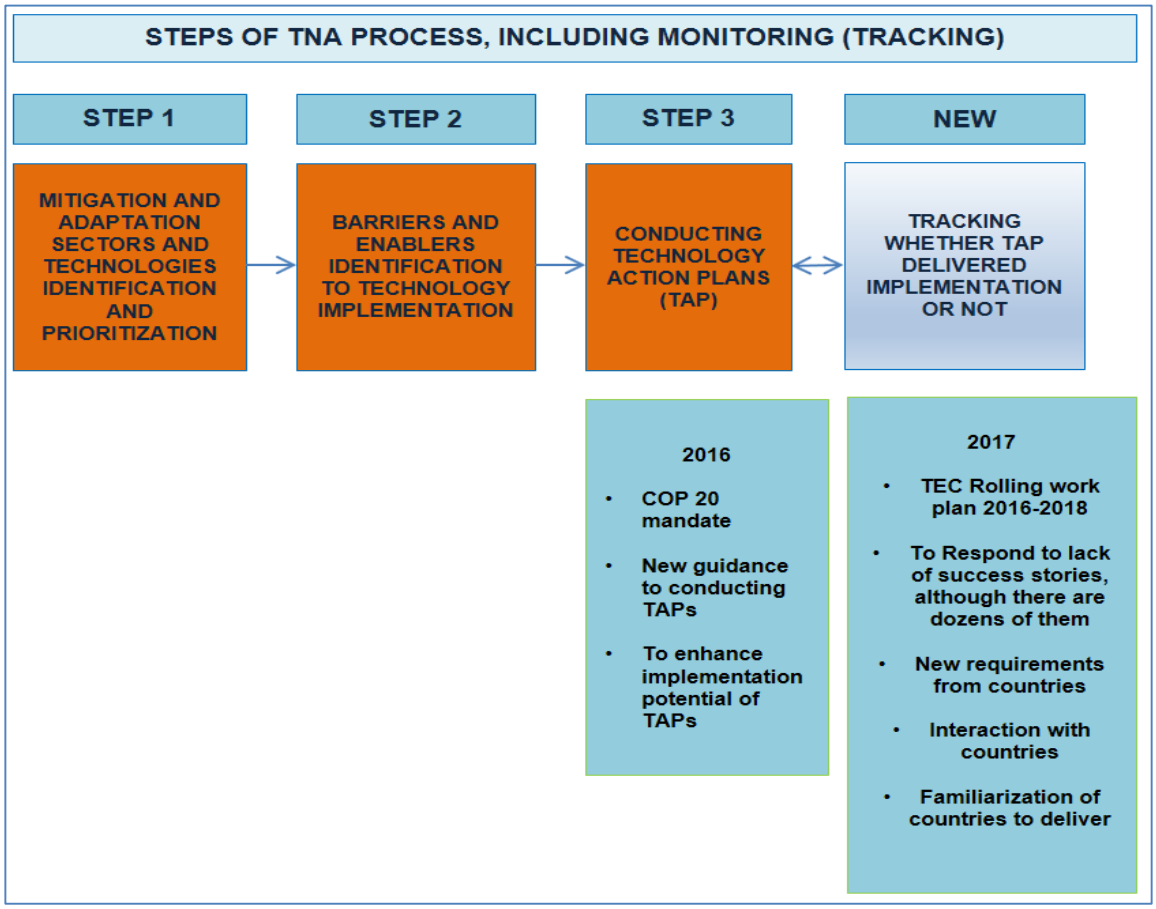
24. With respect to tracking of results, harmonization of processes can be mutually supportive. This was recognized by the TEC draft paper on "Linkages between the Technology Needs Assessment Process and the Nationally Determined Contribution Process" which concluded: *"Establishment of national and international systems for monitoring and evaluation of processes and the implementation of their results could be another way of supporting the streamlining of processes. By utilizing information generated through*

[5] <http://unfccc.int/ttclear/misc_/StaticFiles/gnwoerk_static/TEM_TEC_meetings/d8024d9b950f43d594fc17fd22b5477a/6d4c53c874c74baab1ee4b287ec9292e.pdf>.

[6] <http://unfccc.int/ttclear/misc_/StaticFiles/gnwoerk_static/TEC_column_M/33933c6ccb7744bc8fd643feb0f8032a/82af010d04f14a84b9d24c5379514053.pdf>.

such systems, the resources and information provided for the national processes could be better targeted and used more efficiently. Regular monitoring and reporting of progress on the national processes would allow consistently documented experience sharing and review of the processes, as well as the institutional organization of these, and offer the opportunity for targeting support to parties through information generated from the monitoring system." Moreover, the paper recommends: "Monitoring of progress in achieving NDC targets should integrate monitoring of the implementation and impacts of TNA results."

Figure 1: Steps of the TNA process, including monitoring or tracking the TNA results step



V. WHAT types of information could inform "lessons learned"

25. Different types (and levels) of information that offer significant potential for gathering "lessons learned" from TNAs and TAPs fall into fairly clear categories: Problem; Initiative; Linkages; Status; Information; and, Next Steps. This section describes each category, provides a basic example of each[7] and adds a suggestion on additional information that may have improved the examples' "lessons learned" potential.

Table 1: Types of information

TYPE 1 INFORMATION: **Problem Addressed and Barriers** **Identified**

[7] Unless otherwise noted, these examples are derived from COP 22 Promotion Materials,. The example in each case illustrates the type of information provided. We then identify additional information that we believe would make these already interesting examples even more interesting.

TYPE 2 INFORMATION: **Initiative(s) Identified**
TYPE 3 INFORMATION **Linkages to Other Processes**
TYPE 4 INFORMATION **Status or Progress of Initiative(s)**
TYPE 5 INFORMATION **Contact and Other Available Information**
TYPE 6 INFORMATION **Next Steps and Resources Needed**

26. Type 1 information involves the definition of underlying problems, including barriers to progress. This is useful "lessons learned" information because it quickly sets the stage for possible application by others. It shortens the list of examples for others to study. It targets readers' interests. It allows for statement of the original results of the TNA-TAP (such as barriers identified for technology implementation) while creating the opportunity to update that statement if significant changes have occurred.

- Example THAILAND: agriculture is clearly identified as a priority and vulnerable sector by the country. This designation is then reinforced by references to how the TNA—reflecting this priority—connects to national plans and has become priorities of two significant national bodies atop science and technology, and genetic engineering and biotechnology. Of equal (and perhaps greater) importance, this problem definition was subjected to stakeholder consultations to identify first-step actions, resulting in a clear recommendation to pilot "freeware" for farmer decision-making. This problem statement (and the process of its refinement) communicates the "addressable problem" as farmer information and capability. This would easily translate to a valuable lesson for professionals confronting similar circumstances;
- Potential Additions: this example could benefit from more detail on the "pilot being planned" and the identification of source of additional information. Some detail on the problem refinement process via stakeholder consultations would have also added value.

27. Type 2 information is comprised of the strategies, methods, projects or activities ("initiatives" or actions identified in a TAP)[8] originally and subsequently identified as addressing the problems and barriers. Such information can inform others how simple technologies and techniques can be used to address significant challenges. The following example illustrates the value of high-level priority setting to build both immediate and longer-term response capacity, and how advance planning can facilitate responses when problems have been anticipated.

- Example – MOLDOVA: in 2013 Moldova's TNA incorporated the need to build capability to deal with extreme weather events. These included public sector coordination among health, education, interior and local entities, reinforced by public education and information. In 2016 these recommendations were taken "off the shelf" and set the stage for specific actions by the prime minister;
- Potential Additions: this is a particularly effective example (even summarized in its three paragraphs) because of its simplicity and clarity. The underlying problem is clear and the response specific. As this is a fairly easy to emulate initiative, a link to more details and contacts would have added immediate value and increased the likelihood of another country adopting identical or similar low cost measures.

[8] Step 2 of the Guidebook Enhancing Implementation of Technology Needs Assessments; <http://www.tech-action.org/Publications/TNA-Guidebooks>.

28. Type 3 information indicates the all-important linkage of initiatives to other processes and plans, including national, UNFCCC and other plans. As noted (in Paragraphs 21-23) there have been ongoing discussions on harmonizing TNA with other processes under the Convention. The main rationale for such harmonization is to identify measures, options, actions for climate change mitigation and adaptation that are in line with countries' national sustainable development objectives. Such linkage will be useful in showing efficiencies among different processes and demonstrating alignment and continuity. It would also be instructive regarding paths that preparers should consider linking together, as the following two examples illustrate.

- Example 1-HONDURAS: as part of its TNA preparatory process. Honduras included as one action the creation of a NAMA – Nationally Appropriate Mitigation Action – for livestock production. The underlying problem is sketched – a decline in cattle due to weather events and pasture conversion – and four elements of a response are note; that is, the improvement of feed; genetic content; veterinary practices; and, farming systems (including incentives and finance). We learn that that the NAMA is "being designed";
- Example 2 -LEBANON: In its TNA, Lebanon focused on four sectors: power and transport as sectors for mitigation and development, and agriculture and water for reducing vulnerability to a changing climate. After completing the TNA process, the government of Lebanon took next steps to incorporate the prioritised technologies in national legislation, policies or programmes. Low-emission technologies prioritised for power production all became subject of a *Feasibility Study on Fossil Fuel Subsidy Removal* by the Environment and Finance ministries. Moreover, they were considered in the Ministry of Environment's planning for an Optimal Renewable Energy Mix for Lebanon. The three prioritised renewable energy technology options, wind, PV and hydropower, all became part of the *National Renewable Energy Action Plan* by the Ministry of Energy and Water. When preparing its INDC in 2015, for which the country had around six months' time, Lebanon used several outputs from its earlier completed TNA, both for mitigation and adaptation. Not only could Lebanon tap into already developed portfolios with priority technology options, it could also build further on the analysis of barriers and enablers for these options as done under the TNA. It is noted though that the sector coverage of the INDC is slightly broader than that of the priority sectors in the TNA;
- Potential Additions: if these examples were helpful and instructive to someone, then it would have been value-added to provide a link to additional documents, describing the TNA-TAP-action and the NAMA. Contact information ("for additional information") would add value provided the contact was in a position to respond to information requests. Extremely useful would have been to understand what challenges had to be met in reaching this stage and what resources were still lacking to advance the TNA-NAMA initiative further.

29. Type 4 information reports the current status of initiatives (TAP actions). Such information will inform others on the requirements (and difficulties) of implementation. As the following example notes the level of detail ("granularity") in such reports is particularly useful in illustrating the applicability of an example to another setting. This example is also a particularly instructive example of problem statement along with barrier identification (Type 1 Information).

- Example –LEBANON: this TNA identified the harvesting of rainwater as a priority technology to address groundwater depletion for farmers. It noted that harvesting rainfall from the roof of a greenhouse was not a cost-effective solution under certain (rainfall quantity) conditions. A decision was made to launch a pilot project in three locations comprised of fourteen greenhouses to quantify the effectiveness (and ineffectiveness) of such harvesting. The example reports the collection of one million cubic meters of rainwater harvested and provides the three locations of the pilot. This example also provides an instructive picture of such a harvesting process;
- Potential Additions: this very useful example would have been even more instructive with two more comments: on the results of the pilot vis-à-vis the identified barrier of low cost-effectiveness under certain conditions; and, on the expected scale-up program or project. This example is extremely rich regarding problem statement and solution; the linkage to a UNDP Programme is important to validating the "action orientation" of the TNA in this case. Contact and follow-up information would have added a degree of direct follow-up for interested parties.

30. Type 5 information incorporates both contact details and additional information resources. Contact information is essential to the direct (rather than intermediated) sharing of lessons learned. Additional information, if available, can foster greater collaboration and faster learning often self-guided, and therefore cost effective.

- Example – JORDAN: livestock grazing is a crisis issue for Jordan and its TNA grassland management as a key adaptation priority. A GEF pilot project was initiated to revive a community based grazing management technique. The example reports that Jordan's Ministry of Environment (contact point) is preparing a concept note (additional content) for the Green Climate Fund's consideration a second contact and information point). While more specific contact information and a direct document link would have been useful this example points interested readers in the right direction;
- Potential Additions: as noted, more detailed contact information and document links would be value added. This example would have benefitted from more detail on the traditional grazing system (otherwise a first reader might not make the connection to his or her own circumstances) and the status of the pilot project mentioned.

31. Type 6 information involves next steps and needed resources. This information can inform forward-looking resource provision and assistance, and avoid the frustration of "having a good idea but nowhere to turn". Linkage to "next steps" often accelerates the momentum of an initiative, as the following example illustrates, as well as highlighting information gaps that should be addressed to achieve the objective of "tracking progress" rather than just "reporting".

- Example –Bhutan: in preparing its TNA Bhutan highlighted the need to improve its managerial and operational support of the transport sector. Intelligent Transport Systems were defined as a "must have". Fortunately, the Climate Technology Centre and Network (CTCN) was available and able to respond by organizing training and field visits, and by establishing a link to Bhutan's Nationally Appropriate Mitigation Action;
- Potential Additions-it is unclear if the provided training and field visits satisfied the need for resources to progress the initiative. Intelligent Transport Systems are, clearly, "systems" comprised of human and institutional capacity, hardware, software, connectivity, equipment and vehicles. This example provides a clear statement of the problem being addressed and the proposed solution at the strategic level. To inform others at the minimal level the example should itemize the components of an ITS under consideration and the next steps and resources needed to make progress.

32. Comment: these six examples are instructive in a few ways and they raise a question to consider:

- The examples establish with reasonable clarity the types of information that "TNA Progress Tracking" should aspire to collect. Each of the identified categories represents a type of information that can inform others in a meaningful way. These examples taken together provide a template of sorts to examine further. In each case it is fairly clear that basic information, while extremely useful, could be even more useful if expanded in a modest degree;
- Question: is 60% of 100% of the desired information better than 100% of 60% of the desired information? "Complete and balanced" information usually reflects a desire to get all the categories of information addressed (in our case, six categories: Problem; Initiative; Linkages; Status; Information; and, Next Steps) however imperfectly. Agreement with this principle tends to weight the argument in favor of obtaining 60% of 100% of the information desired. Special Objectives (e.g., demonstrating the value of a process such as TNA-TAP), however, inclines information gathering to more detail on one or two of the six categories than making sure that all are at least considered. This weights the argument to more selectivity ("100% of 60%").

VI. HOW: Options and an Example of tracking TNAs and TAPs

33. The purpose of the framework that follows is to set the stage for examining the different options that can be considered in deciding how to track the progress of TNAs and TAPs, including their component programs, projects and activities ("initiatives"). A six by six matrix is proposed for looking at many of these options, the horizontal axis representing progressively more detailed levels of "tracking", and the vertical axis identifying the types of information to be tracked.

Table.2 Progressively more rigorous process

Level of detail (across) **TYPES of Information (down)**	**Headlines**	Add: **Supplementary Information**	Add: **Follow-up for Completeness**	Add: **Independent Test Checking**	Add: **Critique**	Add: **Recommendations**
Problem Addressed						
Initiative(s) Identified						
Linkages to Other Processes, such as NAPs, NAMAs, (I)NDC						
Status or Progress of Initiative(s)						
Contact and Other Available **Information**						
Next Steps and Resources Needed						

34. The TNA-TAP process technically ends with the *completion* of the TNA and TAP. Both on the preparation side and the reviewing or tracking side there are neither resources nor processes to undertake independent test checking, professional critique or recommendations (formal or informal). While recognizing that critique and recommendations are an integral part of the *preparation* of TNAs and TAPs, this is not the case for tracking post-completion progress. Eighteen of the thirty-six options within our matrix fall by the wayside if we accept that neither the mandate nor the resources exist to consider such a rigorous process.

Table. 3 Categories of information

Category of Information:	**Headlines**	Add: **Supplementary Information**	Add: **Follow-up for Completeness**	Add: **Independent Test Checking**	Add: **Critique**	Add: **Recommendations**
Problem Addressed				X	X	X
Initiative(s) Identified				X	X	X
Linkages to Other Processes				X	X	X
Status or Progress of Initiative(s)				X	X	X
Contact and Other Available **Information**				X	X	X
Next Steps and Resources Needed				X	X	X

35. We are left then with a three by six matrix. In the following example – based on a description of a TNA-TAP initiative we have illustrated the six categories of possible information and the three levels of information that might be obtained:

- Headline level;
- Headline plus some detail; and,
- Headline plus detail if a higher quality of completed information was desired.

The items in **bold** (below) represent the information obtained from the brief summary. The items in *italics* represent questions that expanded information might address.

Table 4. Categories of information

Category of Information:	**Headlines**	Add: **Supplementary Information**	Add: **Follow-up for Completeness**	**Lessons Learned, Comments**
Problem Addressed	**Country uses 80% fossil fuel**	**Energy bill = 15% to 20% of imports… Inefficient boilers contribute high upfront costs and limited human capacity limit EE retrofits**	*How significantly do inefficient boilers contribute to the problem? How high is the capital cost barrier? What are the training needs*?	

Category of Information:	**Headlines**	Add: **Supplementary Information**	Add: **Follow-up for Completeness**	**Lessons Learned, Comments**
Initiative(s) Identified	**Waste heat recovery**	**Efficient boilers could save 18,000 tonnes CO2e**	*High upfront costs addressed how*?	
Linkages to Other Processes	**TNA connected to GEF mitigation project**	*What is the scope and budget of the GEF Project?*	*What specifically transferred from TNA to GEF project?*	
Status or Progress of Initiative(s)	*What is the status of GEF project?*	*How many retrofits accomplished at what cost as of DATE?*	*What is the management and reporting structure for this follow-up*	
Contact and Other Available **Information**	*Who in-country has current information?*	*What documents are available?*	*How is information being tracked and reported?*	
Next Steps and Resources Needed	*Are recommendations in the TNA all moving forward?*	*Are there initiatives from the TNA-TAP that could follow the path of the GEF Projects?*	*Is anybody actively working on such "left behind" initiatives?*	

36. "Headlines" alone and "Headlines plus supplementary information" represent useful but generally incomplete information. This level of tracking relies on voluntary back and forth between entities interested in this information (e.g., UDP, Secretariat, other countries in similar circumstances). The time-on-task of gathering, reporting and editing this information generally is unbudgeted and must fit within other responsibilities.

- It would be important to determine just **how much time is required** in this process, based on past preparation and with estimates of the additional time to touch on all six categories of information;
- It would then be informative to estimate the **incremental time needed to reach the next level of completeness** and detail;
- We will explore this further (in Section VII) after first addressing the critical issue of who should prepare and who should receive tracking information.

VII. WHO and WHOM - Who should report? To whom should they report?

37. The issue of who should report, how and what they should report, and to whom they should report must be clarified. One of the particular challenges is one of timing: implementation might follow the completion of TNAs and TAPs, and the identification of projects, by many years. TAPs and implementation projects may evolve or join with other initiatives. Time will, of course, mean personnel changes. And the very international processes that originated TNAs, TAPs and implementation may undergo significant change. In this section of this paper different options and combinations of options are reviewed.

Who Should Report?

38. There are several possibilities for who reports on the implementation results of TNAs and TAP. A first observation is that this will be a decision to be made by the TNA country as it depends on how the country assigns responsibilities to entities working and reporting on climate change-related processes. Second, reporting on TNA/TAP results is likely to require a certain level of familiarity with the TNA/TAP process as the tracking process suggested in this paper is not just an accounting issue but also a lessons learned exercise. It the next paragraphs, we therefore discuss three potential organizations in developing countries that are familiar with or have been involved in the TNA process and could therefore be possible candidates for reporting. Finally, the tracking processes would benefit from collaboration between the domestic reporting entity and UNEP DTU Partnership, as manager of the Global TNA project. Combinations of the three are also possible.

39. Nationally Designated Entities: Having NDEs report on the progress regarding TNAs and TAPs could create more incentive for NDEs to bring TAPs forward and encourage them to follow the TNA process. As noted, there are overlaps between NDEs and TNA coordinators for TNA Phase I and II countries, and for TNA Phase III this overlap may even be increased. The procedure for replacing NDEs offers some degree of continuity, as there can be an orderly hand-off from departing NDE to the new appointee. This is even more likely if the NDE is an institution. Asking NDEs to serve as the reporting entity suggests that NDEs take on an additional duty. According to the CTCN, NDEs presently do not do any reporting. NDEs do not receive any external compensation for their work, which is contributed as "in-kind" by their countries

40. TNA Coordinators: TNA Coordinators are very familiar with the TNA and TAP process and should have an interest in taking it forward. The challenge is that once the TNA-TAP and its component projects are finalized, the duties of a TNA Coordinator are completed. An additional complexity involves the fact that TNA Coordinators are not replaced once the process is completed (that is, once the TNA-TAP and component projects are defined).

41. UNFCCC Focal Points: Focal Points are already formally contact point for UNFCCC; thus, continuity exists as somebody else will be nominated if a person leaves. As noted, sometimes a UNFCCC focal point is also TNA coordinator. It remains to be determined if these focal points already do reporting, so that TNA-TAP Progress Reporting might be added to existing responsibilities. It is generally viewed that these focal points are already stretched with duties.

To whom should reports be submitted?

42. Choices here include reporting to the UNFCCC (Secretariat); or UNEP-UDP. While the following brief section outlines options it seems apparent that a collaboration between the Secretariat and UDP aimed at producing widely available tracking reports makes sense.

43. UNFCCC (Secretariat): Reporting to the UNFCCC would be beneficial. This would also ensure that reporting could include not only the TNAs under the global TNA project, but also stand-alone TNAs (where some of them are not directly supported UDP, for example South Africa, which is conducting a TNA without external technical support or capacity building).

44. UNEP – UDP, which directly supports TNAs under the global project mentioned above, would likely find it very beneficial to have and be able to use this information as well (replication, lessons learned, showcase success stories).

What to report?

45. As noted earlier, the different types of information that offer significant potential for "lessons learned" from TNAs and TAPs fall into fairly clear (and not overlapping) categories:

- **Problem** Addressed;
- **Initiative(s)** Identified;
- **Linkages** to Other Processes;
- **Status** or Progress of Initiative(s);
- Contact and Other Available **Information;**
- **Next Steps** and Resources Needed.

46. Ideally a tracking progress report would include all of these categories. At the same time any tracking process should avoid the "perfect becoming the enemy of the good": having five of six categories of information now is better than having all six categories at some undetermined date. Therefore, it is important that any template be both simple and flexible, and that the process emphasizes information "as available" rather than "completed".

47. Ideally a tracking progress report would also contain significant granular (quantitative and qualitative) data: greenhouse gas reduction, beneficiaries served, vulnerabilities reduced, specific multiple purposes or uses of the TNA-TAP and so on. But it is important to "track progress" itself not bog down such tracking with information requirements that may act as a disincentive to reporting.

VIII. How should tracking and reporting be tested?

48. At the end of Section V we were left with three options regarding the level of information desired.

- "Headlines" alone, and ***"OPTION I-Headlines plus Supplementary Information"*** represent useful but generally incomplete information. This level of tracking follows the process, relying on voluntary back and forth between entities interested in this information (e.g., UDP, Secretariat, other countries in similar circumstances). The work involved in gathering, reporting and editing this information generally is unbudgeted and must fit within other responsibilities. As previously noted it would be important to determine just how much time is required in this process, adjusted to assure that at least some information is collected in each of our proposed categories;
- It would then be informative to estimate the incremental effort needed to reach the next level of completeness and detail: ***"OPTION II-Headlines, Supplementary Information and Follow-up for Completeness"***.

49. Such an exercise would result in rough budget approximations and estimates of the degree of difficulty involved between Option I and Option II, accepting that these are really two degrees of detail rather than distinct tracking choices. For that reason the TEC may also consider an evolutionary approach: proceeding with Option I and growing its level of detail over time. In any event knowing the costs (time) and challenges of going forward will prove useful.

50. As we have existing promotional materials - materials that meet many but not all of the OPTION I-Headlines Plus Supplementary Information criteria-- it should be possible for the original participants to re-construct the time-on-task and process entailed in the origination of these examples, as well as roughly estimate what would be required to assure that at least minimal information is included in all the desired categories. The Mauritius example shown on page 12 provides a template for the beginning step of determining the level of completeness of the examples.[9]

51. It might then be possible to estimate the requirements to reach the next level of detail --*Headlines, Supplementary Information and Follow-up for Completeness*-- and determine if this level makes sense.

52. Note-While two options are offered, the difference between the two are really ones of degree. Initially it was thought that three or more countries could be asked to prepare Option I and a different set of countries asked to prepare Option II. This test was set aside as of little value.

53. It is more important that a test be conducted that measure the (labor, time and other) requirements of completing a tracking report at the level of Option I versus Option II. Such a test could inform both the seriousness of asking countries (and international staff) to prepare documents and add to the discussion of possible incentives to support the process.

54. Therefore a test is proposed for the period April to August 2017. During this time countries will be contacted and they will be asked to consider the work requirements and difference in results of the two options. International staff (UNFCCC, UDP, others) will also keep track of their requirements to handle the

[9] One Testing Protocol to Consider: 1/ Imitating the Mauritius Example on Page 12 , analyze all the examples to determine the categories that have been completed and estimate the time on task originally required; 2/ Estimate the time on task to finish at least the bare-bones "completeness" requirements of Option I; 3/ Estimate the time on task to add the degree of completeness of Option II; 4/ Consider other available countries to include in estimates; 5/ Consolidate results and create "indicative budgets" for Option I and Option II efforts, treating hours as the measure (not dollar or Euro equivalents… in other words, "all hours are created equal").

back-and-forth, editing and coordination of such reporting. **The purpose of this testing would be to estimate the time and other requirements of the respective options**.

IX. Possible conclusions

55. Tracking TNAs and TAPs post completion makes sense to both value the TNA-TAP process itself, share lessons learned, and link the TNA-TAP process to follow-on processes and steps.

56. The categories of information that offer value as "lessons learned" are clear, and these would combine to provide a complete and balanced report of progress.

57. Within each category different levels of information are possible. By combining the categories of information with two different "levels" of information two options emerge.

Issues to be determined by the TEC:

- Fixing responsibility for collecting information from countries (a joint UNEP-UDP Secretariat effort makes sense);
- Fixing responsibility for in-country effort (a combined NDE-TNA Coordinator effort seems well suited, with a variation on theme also including UNFCCC focal points);
- Whether to test the two options as proposed or proceed with an evolutionary approach;
- Estimate the incremental resources needed to begin a "tracking progress" activity.