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EXPERIENCE FROM PREPARING GENDER RESPONSIVE TNAs

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This briefing note presents and discusses key trends and insights regarding efforts to mainstream gender in the Technology Needs Assessment (TNA) process and the role that climate technologies can play in ensuring gender-responsive climate action. Reflecting on the gender considerations included in reports from the first countries conducting TNAs since the publication of the Guidance for a gender-responsive Technology Needs Assessment[1] in 2018, we will conclude with some lessons learnt from TNAs, so that climate technology planning and actions are strengthened and gender-responsive.

[1] UNEP DTU Partnership (2018). *Guidance for a gender-responsive Technology Needs Assessment*. UNEP DTU Partnership, Copenhagen. Available at: https://unepdtu.org/publications/36105/

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Experience from preparing gender-responsive TNAs

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An introduction to gender mainstreaming and climate technologies

WHAT IS GENDER MAINSTREAMING?

Gender mainstreaming is the process of assessing the respective implications for women and men of any planned action, including legislation, policies or programmes, in all areas and at all levels. This is a strategy for making both women's and men's concerns, experience, and contributions an integral dimension of the design, implementation, monitoring and evaluation of policies and programs in all political, economic and social spheres so that women and men benefit equally, and existing inequalities are not perpetuated. The ultimate goal is to achieve gender equality.

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IMPACTS AND SOLUTIONS TO CLIMATE CHANGE ARE GENDERED

The impacts of climate change are gendered, as are the solutions and technologies to address it. Climate hazards such as droughts, landslides, floods and hurricanes, affect women and men in different ways, and their capacity to respond to these hazards is also different. Women in poverty commonly face greater risks and burdens from the impacts of climate change. Data gathered by UN Women and UNDP[2] shows that, for every 100 men aged 25-34 living in extreme poverty, there will be 118 women, and this gender poverty gap is only expected to increase. Women and men often play different roles in households and communities, and differences can be seen in the way they earn their livelihoods and access resources and opportunities. For example, women tend to rely more on natural resources or have more domestic burdens, especially in rural areas, and are thus hit harder by dramatic shifts in climate systems. Overall, women are generally at a disadvantage as they face challenges in realising their rights, for example due to social norms or policies that perpetuate the inequalities. Other forms of discrimination can also make people more vulnerable to climate change, such as race, indigeneity or age.

As with climate change, development initiatives can affect male and female beneficiaries in vastly different ways because of these gender differences and inequalities. If gender dynamics are not taken into account, women often encounter obstacles to participating in, and benefiting from, development projects. For the deployment of climate technologies to be effective, it is important to recognise that technologies are used and affect people in different ways. Women as well as men are important agents of change, and their knowledge about their environment and community needs to be

[2] UNDP (2020). *COVID-19 will widen poverty gap between women and men, new UN Women and UNDP data shows*. Press release, 02-09-2020. Available at: https://www.undp.org/press-releases/covid-19-will-widen-poverty-gap-between-women-and-men-new-un-women-and-undp-data

WHAT IS A TNA?

A TNA is a set of country-driven, participatory activities leading to the identification, selection and implementation of climate technologies in order to mitigate the effects of climate change by reducing greenhouse gas emissions or adapting to the impacts of climate change. TNAs were strongly emphasized in the Paris Agreement, and they play a central role in the newly agreed United Nations Framework Convention on Climate Change (UNFCCC) Technology Framework, which provides overarching guidance to the UNFCCC's Technology Mechanism.

The TNAs follow a step-by-step approach whereby climate technologies are first prioritised, secondly undergo a barrier analysis in relation to their uptake and diffusion. Thirdly, actions needed to create enabling conditions for scale-up of the technology are summarised in an action plan that can be used to unlock climate finance for implementation. The three steps are then in turn translated into three concrete outputs, namely: 1) the TNA report; 2) the Barrier Analysis and Enabling Framework (BAEF) report; and 3) the Technology Action Plan (TAP) report. Greater support to developing countries in conducting effective TNAs and implementing TAPs will be instrumental in enhancing implementation of the Paris Agreement.

Since 2009, close to a hundred developing countries have joined the project: twenty-four countries in the Latin America and Caribbean region, thirty-seven in the African region, and thirty-nine in the Asia-Pacific region. In the period 2018-2022, 22 countries have joined the third phase of the TNA project. These countries are the basis of the analysis, and are referred to as "Phase III" countries in this briefing note.

given a high visibility. Hence, supporting and using climate technologies and projects that do this is an essential part of climate action. This means that action plans for a climate technology must be designed to meet different needs, taking into account people's gender, as well as their social status.

ADVANCING GENDER-RESPONSIVENESS IN TNAs

To ensure that men and women benefit equally from the actions set out in TNAs, and that gender inequalities in activities and outcomes are reduced or eliminated, gender differences need to be taken into account throughout the entire TNA process and its outcomes.

Systematically mainstreaming gender issues into the TNA will help to ensure that women and men gain equal opportunities in relation to the TAPs that result from the TNA process, and will better contribute to achieving the Nationally Determined Contributions (NDCs) and the Sustainable Development Goals (SDGs). Gender mainstreaming requires action at all levels, be it individuals, governments or within the international community. A recent report from the IUCN[3] shows that almost 80% of NDCs available on the UNFCCC website at the time of the study mention gender in their text. The reports coming from the TNA process are also highly relevant in the context of NDCs, as countries are using TNA results as inputs to preparing their NDCs. This often forms the technology-focused parts of countries' NDCs and feeds into the sectoral assessments.

Throughout the TNA process, gender considerations need to be mainstreamed, particularly in:

- **Setting up the team and stakeholder engagement**
- **The technology prioritisation process**
- **The barrier and enabling framework analysis**
- **The development of technology actions plans**
- **The development of project concept notes**

Figure 1 shows a detailed step-by-step approach for TNA teams, suggesting entry points for integrating gender in the TNA process. The below figure is taken from the TNA guidebook "Guidance for a gender-responsive Technology Needs Assessment". Developed in 2018, the guidebook familiarises the reader with gender concepts and demonstrates the relevance of gender issues to climate change adaptation and mitigation, as well as to the relationship between gender and climate in the Sustainable Development Goals.

Photo: C. de Bode for CGIAR System Organization / Flickr

[3] IUCN (2021). *Gender and national climate planning: Gender integration in the revised Nationally Determined Contributions.* Gland, Switzerland: IUCN. Available at: https://genderandenvironment.org/gender-and-ndcs-2021/

FIGURE 1. A GENDER-RESPONSIVE CHECKLIST FOR TNA TEAMS

TNA activity		Integrated gender? Y/N
	Composition of TNA team	
STEP 1. **Sector and Technology Prioritisation**	**Step 1. Identify and categorise technologies**, including familiarisation • Assess gender in the background study and conduct a gender analysis of the technologies	
	Step 2. Assess technologies through MCA • Gender: include a gender criterion to assess each technology	
	Step 3. Make final decision • Gender: ensure gender-sensitive stakeholder engagement in decision-making process, and take into account the gender analysis conducted to inform the final decision	
	Output: Prioritised list of technologies for adaptation for highest priority subsectors. * This needs to include a clear indication of gender responsiveness and gender information presented in the prioritised list	
STEP 2. **Barrier Analysis and Enabling Frameworks**	**Gender-related barriers and corresponding enabling frameworks** to be identified for each of the technologies	
STEP 3. **Technology Action Plans**	**Step 1. Aim of the TAP** Indication of how gender will be considered in the TAP	
	Step 2. Actions and activities for the TAP Outline how TAP activities and actions will achieve gender outcomes	
	Step 3. Identify stakeholders and determine timelines Indicate how gender is accounted for in stakeholders for TAP implementation, and conduct a gender analysis of actions and activities	
	Step 4. Capacity needs and cost estimates Identify how capacity-building will be gender-responsive during TAP implementation, and conduct a gender analysis of budget lines and activities	
	Step 5. Management planning	
	Step 6. Reporting Ensure that gender is included in the TAP/project idea reporting	
	Step 7. Tracking the implementation status of TAPs Integration of gender-specific criteria and targets to be reported on during TAP implementation	

Catalysing gender equality in the early stages of the TNA

GENDER-RESPONSIVE TNA TEAM COMPOSITION

It is important that gender is mainstreamed into the composition of the national TNA team and broader stakeholder engagement at all stages of the TNA process. This means taking into account people that are typically excluded from the planning and decision making processes, adopting a gender mainstreaming approach by bringing diverse voices to the table, and recognising the knowledge and potential of both women and men as agents of change.

As presented in the TNA guidebook "Guidance for a gender-responsive Technology Needs Assessment", there are two key aspects need to be considered by the teams in setting up and preparing the TNA process:

- **First, the composition of the TNA team at the coordination level, in steering committees as well as in the consultancy team, to ensure that it has a good gender balance. This is of foremost importance, as the presence of women in the TNA team will lead to more equal decision-making processes that include the experience and point of view of both men and women. In addition, selecting team members with knowledge of gender equality issues is a crucial first step to mainstreaming gender in the TNA;**

- **Second, to ensure that there is a gender expertise present in the team. Selecting team members with knowledge of gender equality issues is crucial to mainstreaming gender into the TNA process.**

For TNA III countries, 6 of the 22 countries have chosen to nominate a female TNA coordinator or assistant coordinator, and 6 selected a gender-balanced team of consultants, meaning that they count both the pres-ence of men and women in their team. This share remains low, and efforts to reach a higher level of gender balance were made while setting up the TNA process for the 17 new countries that have joined the fourth phase of the TNA project in 2020.

However, a higher degree of gender balance can be seen when it comes to technical working groups. As such, countries often include women, relevant government entities dealing with gender affairs, or women's groups, such as the civil society entity of Dominica National Council of Women in Dominica or the Department of Women's Affairs in Vanuatu.

Despite this, when interviewing a number of representatives from national TNA teams, a challenge that was repeatedly cited was that team members were met with some ignorance by some stakeholder groups on the issue of gender mainstreaming. No one appeared to be against gender considerations as such, but a common assumption was that gender is 'just about figures', hence additional efforts are needed to raise awareness amongst stakeholders.

GENDER-RESPONSIVE CLIMATE TECHNOLOGY CHOICES

In order to assess the first selection of climate technologies, countries conduct a Multi Criteria Analysis (MCA). With this analytical tool, countries define and use criteria to evaluate the technology options against one another and then select relevant indicators. The selection of criteria will depend on each country's national context and priorities, and will differ between adaptation and mitigation technologies. It is recommended that gender assessments for each of the technologies is defined as a criterion, during the MCA step.

The scoring for the gender criterion should reflect the strength of the technology in achieving gender equality. In the case of Jamaica, the Assistant TNA Coordinator, Ayesha Constable, highlighted that the TNA team

ensured that consultations sought responses to gender-based questions when assessing each sector and technology that was analysed through the MCA:

"*In a lot of documentation, gender is seen as women-oriented, but countries are moving away from this. We made efforts on our side to show early on that it was about equity, and not only about women. (...) So the gender [questions] came at an early stage. When looking at the sectors, the conversation was about 'What are the gender considerations within each sector for men/women?'*"

Examples of questions documenting this process in the TNA report[4] from Jamaica are "*What do female/male farmers need to improve agricultural productivity?*" or "*What are the challenges in female-/male- headed households in accessing potable water?*" The fact that the Assistant TNA Coordinator has past experience with gender assessments was perceived as a valuable resource. For example, when national experts sent in initial report drafts, direct feedback was given in terms of gender considerations, so it was possible to reframe technologies and stakeholder engagement to be gender responsive earlier than later in the process.

Prior to the introduction of capacity-building activities focusing on gender responsive TNAs, countries often utilised the broad criterion of "job creation" during their MCA. However, several countries are now starting to consider job creation more thoroughly by including the question "*job creation, yes, but for who?*". The concept can then be distinguished by whether it is for women and/or men, as a concrete example. Another criterion could include reducing labour demand, and then again considering whether this is for women or men.

TNA REPORT – UGANDA (2019)[5]

Gender aspects were considered in the TNA process of Uganda, starting with the integration of women in the TNA teams. For example, on the mitigation side, the national coordination team and the team of national consultants were gender balanced. In Uganda, 50% of the sectoral working group's members were female and views of both men and women were equally valued during the technology prioritisation process.

In its mitigation-focused TNA, the country prioritised non-carbonised biomass briquette production for households and institutions. The projected reduction in the burden of wood collection that predominantly falls to women and girls was considered a key factor in the selection of this technology.

On the adaptation side, together with "social benefit", "employment potential" and "income and market potential", the country included "gender inclusiveness" as a criterion in their MCA leading to the final selection of adaptation technologies in the water, agriculture, and forestry sectors.

For example, rooftop rainwater harvesting and deep well water extraction technologies were prioritised for the water sector, providing social benefits such as reducing risks to women and children as a result of walking long distances to fetch water, as well as minimising the burden and time commitment that women spend hauling water, thus allowing them to participate in other income-generating activities.

[4] Ministry of Economic Growth and Creation (2020), *Technology Needs Assessment Report, Jamaica.* Available at: https://tech-action.unepdtu.org/country/jamaica/

[5] Uganda National Council for Science and Technology (2020). *Technology Needs Assessment Report for Climate Change Adaptation.* Available at: https://tech-action.unepdtu.org/country/uganda/

EXPLANATION OF THE DATA ANALYSIS

In order to analyse gender mainstreaming in the different outputs, we have used a mixed-methods approach of a quantitative and qualitative content review. Firstly, we conducted a data analysis with Atlas.ti, a qualitative data analysis and research software. We created a code based on the following search words: "gender", "women", "girls", "gender mainstreaming", "gender equality" and "gender parity". The search strings were then used to review all TNA, BAEF and TAP reports submitted by TNA Phase III countries. For the qualitative assessment, we were guided by the IUCN's Environment and Gender Information[6], which is used to assess gender equality and empowerment considerations in environment-focused documents. The percentages indicated in this brief are the findings of this analysis, and are based on the total number of reports developed for specific sectors related to adaptation and mitigation. These results are only to be understood as preliminary findings, as not all countries participating in the TNA project had completed the BAEF and TAP steps at the time of the analysis. For this data analysis, the following reports were taken into account:

• 40 TNA reports: 18 focusing on mitigation; 18 focusing on adaptation; 4 cross-cutting
• 52 BAEF reports: 23 focusing on mitigation; 29 focusing on adaptation
• 43 TAP reports : 17 focusing on mitigation; 26 focusing on adaptation

Hence, including gender criteria in the framework of the MCA provides a good opportunity to assess technologies in an equal way. Indicators that follow the gender criteria can encompass multiple elements, such as:

• **Percentage of women/men who will benefit from the technology (in terms of safety, time spent on duties, etc.)**
• **Percentage of women/men who will benefit from the technology (through job creation and employment)**
• **Percentage of girls/boys who will have increased access to education, etc.**

Of the 22 countries that have begun the TNA process between 2018 and 2022, and since the capacity building on gender responsive TNAs, 47% of them have integrated gender as a criterion in their MCA. For example, Liberia, Malawi, and Ukraine have set up "gender sensitive" criteria to assess the scores of the selected technologies, under the "social benefits of the technology" criterion.

Photo: CGIAR System Organization / Flickr

[6] IUCN (2022). *Environment and Gender Information*. Available at: https://genderandenvironment.org/egi/

Gender mainstreaming in the TNA: an analysis

VIEWING GENDER RESPONSIVENESS AS A MULTIPLICITY RATHER THAN AS A MONOLITH

The gender analysis and gender-disaggregated data have shown differentiated trends with regard to mainstreaming gender across different sectors and for different technologies. Nevertheless overall, 98% of the 40 TNA reports being analysed, developed by the 22 TNA Phase III countries, have mentioned gender as being an important issue that needs to be taken into account all along the TNA process, and consider that it should not be viewed as a standalone element.

GENDER RESPONSIVENESS IN BAEFs

In the second part of the TNA process, the BAEF reports, where countries assess what barriers hinder the development, deployment and transfer of the selected technologies, disparities can be seen between sectors. Overall, 56% of the BAEF reports analysed mention gender, with a roughly equal breakdown between adaptation and mitigation.

As such, on the mitigation side, the forestry sector scores a higher level of gender consideration (3 out of 4 countries), followed by the energy sector (8 out of 12 countries) and the waste sector (1 out of 2 countries). On the adaptation side, the reports focusing on the water sector score 7 out of 12 countries in terms of gender mainstreaming, and the agriculture sector scores 5 out of the 9 countries that prioritised the sector. The coastal zone sector scores 4 out of 8 countries for gender aspects considerations.

It is interesting to note that discussions around gender and climate change often focus on the gendered impacts of climate change i.e. how men and women are differentially impacted by the negative impacts of climate change. Nevertheless, from our preliminary

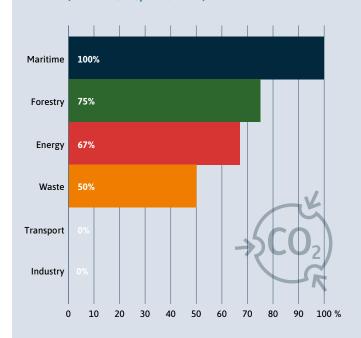**FIGURE 2. GENDER MAINSTREAMING PER SECTOR (BAEF REPORTS, MITIGATION)**
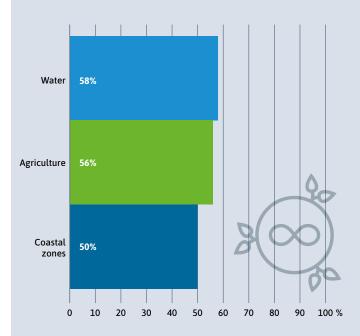
- Maritime: 100%
- Forestry: 75%
- Energy: 67%
- Waste: 50%
- Transport: 0%
- Industry: 0%

FIGURE 3. GENDER MAINSTREAMING PER SECTOR (BAEF REPORTS, ADAPTATION)

- Water: 58%
- Agriculture: 56%
- Coastal zones: 50%

BAEF REPORT – UKRAINE (2021)[7]

In its BAEF, Ukraine considered gender aspects when looking at barriers and enablers in the agriculture and waste sectors in relation to mitigation technologies. In Ukraine, women in rural areas face both gender and residence-related challenges, in particular due to the lack of sufficient social infrastructure (e.g. kindergartens, medical services, public transportation, etc.), limited employment possibilities (both for women and men, since employment of men from the families also brings benefits to women in terms of higher welfare), non-attractive working conditions (long hours, wage levels, etc.), and lack of opportunities to receive professional education and strengthen skills (digital technologies, soft skills, etc.). In addition, there is a significant gap in employment and wage levels between men and women in the agriculture sector.

To tackle these challenges, Ukraine indicates the need to develop an inclusive approach in capacity building activities, as well as a need to set up requirements on vacancies that would be gender neutral both for governmental institutions and businesses. These measures apply to the following technologies prioritised by the country: conservation tillage, biogas production from animal waste, organic agriculture, production and use of solid biofuels from agriculture residues and the use of information and telecommunication for GHG emission reductions in the sector.

In addition, similar conclusions were made for the waste sector, for which Ukraine prioritised methane capture at landfills and waste dumps for energy production, waste sorting, and the closure of old waste dumps with methane destruction. For these specific solutions, Ukraine highlighted the need to implement awards focused on promoting women to be involved in waste management issues and to encourage business and governmental institutions to engage women in leadership positions, by implementing quotas for women's representation in central and local authority bodies.

What is clear is that the TNA team in Ukraine has highlighted a way to use gender as an integrator. Based on the barrier and enabling framework analysis they identified specific needs for each selected technological solution in terms of policies, incentives, regulatory frameworks, and creating the necessary enabling framework conditions for technology diffusion through a gender lens.

[7] Ministry of Energy and Environment Protection of Ukraine (2020). *Technology Needs Assessment Report: Mitigation Technology Barrier Analysis and Enabling Framework*. Available at: https://tech-action.unepdtu.org/country/ukraine/

FIGURE 4. EXAMPLES OF GENDER CONSIDERATIONS IN TAPs

GUINEA

Fishing is one of the main economic activities in the coastal zone in Guinea. Traditionally, women use mangrove wood for smoking fish. The goal highlighted in the TNA is to promote improved 'smoke ovens' to preserve mangroves while making the process more efficient, improving the product quality and income of the women, and that the time spent on processing is reduced. Key to the success is gaining the support of the female fish smokers, so one of the actions planned to introduce the new technology is to provide training to women in the management and manufacturing of smoking ovens at an estimated cost of 30,000 USD.

CENTRAL AFRICAN REPUBLIC

A project idea for a rural solar PV water pumping system aims to promote and disseminate the climate technology in rural areas, to provide clean water and adequate sanitation. Recognising women as having especially unreliable access to drinking water, the project is amongst other expected to reduce women's drudgery and improve their access to water whilst ensure cheap operating costs, and reducing GHG emissions at approximately 233,940 tCO_2e over the lifetime of the equipment.

UKRAINE

Ukraine were stringent in their gender responsiveness and all project ideas within mitigation include benefits for gender equality from its implementation. For mitigation, they prioritised the waste and agriculture sectors. Especially the diffusion of modern municipal solid waste treatment technologies and climate technologies in agriculture will, in particular, contribute to the decrease in difference between the average salary for men and women. In addition it will increase the share of women in the management staff in the waste treatment and agriculture companies in Ukraine.

MYANMAR

The country aims to develop a pilot project for drip and sprinkler irrigation technology. The country highlights that NGOs, CBOs, local women and youth will be involved in creating groups and participating in training and farmers assistance. By doing so, they want to create more commitment to technology adoption and diffusion, while ensuring that equal responsibilities and opportunities can be granted to both men and women.

findings, discussions also focus on the empowerment of women's livelihoods and participation in decision-making processes in the climate sphere.

For example, the Central African Republic, in its BAEF report, states that gender remains problematic, especially in the area of natural resource management. The presence of women is almost non-existent in research offices, which implies difficulties on the issue of inclusive participation of women in decision-making related to climate action. In order to tackle this barrier, the Central African Republic articulated in its BAEF report the need to apply the principle of gender parity in the TNA process by taking into account gender parity in the choice of participants in capacity building activities in the forestry sector, and in the selection of NGOs for the execution of reforestation.

Interviews with the mitigation expert from Fiji revealed that the energy sector, in the specific sphere of rural electrification, was male-dominated. A capacity barrier of an insufficient number of qualified engineers to design micro-grids, for example, was identified during the BAEF process. Concurrently, gender is a national priority in Fiji, which has a Ministry of Women, Children and Poverty Alleviation dedicated to gender affairs, and which has put a National Gender Policy (2014)[8] in place (though not specific to climate). In addition, Fiji adopted the "Gender Action Plan"[9] under the Lima work programme[10] on gender at COP-23. Lastly, through stakeholder engagement, a trend came to light that men who were technically trained often migrate internally,

thus leading to more women staying in the in the villages and maritime communities. Based on these findings, the TNA team in Fiji is looking at measures such as technical and non-technical training programmes, while finding it imperative to include a gender quota for all training programs. Both examples go to show that when it comes to climate technologies, it is also about empowering women, so their voices are heard in decision-making processes and livelihoods secured.

GENDER RESPONSIVENESS IN TAPs

The final step in the TNA process is the preparation of a TAP to support the implementation of the prioritised technologies at the desired scale within the country to achieve the climate and development benefits as identified earlier in the TNA. During the development of the TAP, countries identify project ideas, along with costs and potential funding schemes. As such, a TAP serves as a bridge between the analysis of the prioritised technologies and their implementation. Differentiated understandings of gender considerations and implementation of climate-change technologies are critical for complementing global and national dialogues that are already ongoing.

When it comes to gender mainstreaming in TAP reports, there are also disparities between the sectors prioritised by countries. Overall, 58% of the TAP reports analysed mention gender, with a roughly equal breakdown between adaptation and mitigation.

At sector level in the adaptation TAPs, in the agriculture sector 8 out of 13 countries included gender mainstreaming consideration, 5 out of 9 for the water sector, and 2 out of 4 countries for the coastal zones sector. On the mitigation TAP side, the numbers considering gender aspects were 2 out of 3 countries in the waste management sector, and 5 out of 9 countries for the energy sector. For the forestry sector, 2 out of 4 countries included gender mainstreaming in their TAP. Only one of the countries included a TAP for the industry sector

[8]   Ministry for Social Welfare, Women, & Poverty Alleviation (2014). *Fiji National Gender Policy*. Available at: https://www.fiji.gov.fj/getattachment/db294b55-f2ca-4d44-bc81-f832e73cab6c/NATIONAL-GENDER-POLICY-AWARENESS.aspx

[9]   UNFCCC (2019). *Report of the Conference of the Parties on its twenty-fifth session, held in Madrid from 2 to 15 December 2019. Addendum. Part two: Action taken by the Conference of the Parties at its twenty-fifth session.* FCCC/CP/2019/13/add.1. Available at: https://unfccc.int/documents/210471

[10] UNFCCC (2022). *The Enhanced Lima Work Programme on Gender*. Available at: https://unfccc.int/topics/gender/workstreams/the-enhanced-lima-work-programme-on-gender

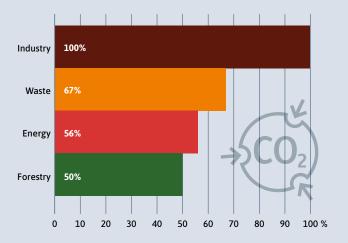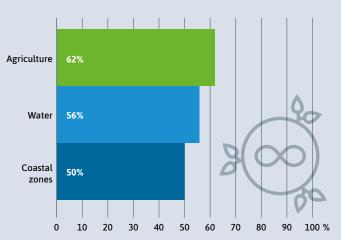**FIGURE 5. GENDER MAINSTREAMING PER SECTOR
(TAP REPORTS, MITIGATION)**

Sector	%
Industry	100%
Waste	67%
Energy	56%
Forestry	50%

**FIGURE 6. GENDER MAINSTREAMING PER SECTOR
(TAP REPORTS, ADAPTATION)**

Sector	%
Agriculture	62%
Water	56%
Coastal zones	50%

and it did include gender aspects in the analysis. Preliminary findings indicate that when it comes to TAPs, a narrow majority of countries included gender considerations within the field of adaptation.

EVIDENCE OF GENDER CONSIDERATIONS IN TAPs

Figure 4 presents different examples of how some countries have included gender considerations. In terms of how women are portrayed, a number of countries present them as vulnerable or are described as suffering from gender inequalities, such as lacking access to natural resources. For example, in the case of Central African Republic's TAP for the water sector, women have "*unreliable access to potable water*", and Liberia's coastal zones TAP[11] states "*vulnerable female and disabled fish mongers*", as women are expected to be affected by coastal climate-change impacts. This has been the dominant narrative when it comes to

the intersection between gender and climate change for some years now. What is now at stake is to both recognise these vulnerabilities and find solutions to overcome them. In the case of the TNA process, TAPs suggest a means of implementing solutions.

For Liberia, women are both beneficiaries and developers of the planned actions regarding their role in introducing rock revetments or flood early warning systems. Women are seen as key stakeholders within the local community groups, where their role is to propose and uphold flood early warning system strategies. At the same time, they can be understood as beneficiaries where women are recipients of education and awareness-raising campaigns. Liberia also included indicators for monitoring gender inclusion for a number of the planned actions within the project ideas.

[11] Environmental Protection Agency of Liberia (2021). Technology Action Plan (Coastal Zones). Available at: https://tech-action.unepdtu.org/country/liberia/

Photo: Sutipond Somnam / Shutterstock

In Guinea's project idea[12] for improved fish-smoking ovens, women are characterised as key stakeholders to be included in technology diffusion and implementation, and as agents of change. In the case of Ukraine and their prioritised technologies for the agriculture sector, the country has included elements of gender responsive-budgeting by determining necessary actions and costs for the technologies to ensure gender-equitable distribution of resources and contribute to equal opportunities for all. In addition, the country underlines that "*it is important that the state's support measures that are introduced to promote the diffusion of climate technologies, take into account gender aspects (support of women owned farms, women's access to capacity building programmes, etc.) to close the existing gender gap in employment and salary levels.*" (pg. 6, Ukraine Mitigation TAP[13])

As presented earlier, many of the TAP reports are still underway and countries have yet to finalise the first concept notes targeting funding agencies. It is anticipated that gender responsiveness will continue to gain ground in project concept notes, as there is clear value in approaching a project from the gender perspective. For the first time, all major financing mechanisms (GEF, GCF, etc.) have gender mandates, and it can be seen as an important stepping-stone to accessing funding if gender-responsive enabling frameworks and actions are already identified and implemented.

[12] Ministère de l'Environnement, des Eaux et Forêts (2021). *Plan d'Action Technologique (Adaptation).* Available at: https://tech-action.unepdtu.org/wp-content/uploads/sites/2/2021/08/guinea-tap-report-2021-adaptation-final.pdf

[13] Ministry of Energy and Environment Protection of Ukraine (2021). *Technology Action Plan – Mitigation.* Available at. https://tech-action.unepdtu.org/country/ukraine/

Summing up

The knowledge being generated by the set of TNA reports from countries supports the notion that gender is a complex and global challenge. Addressing it requires an understanding of the gender dimensions linked to each specific country context, as well as an acknowl-edgement that gender should not be considered a standalone issue, but rather as a cross-cutting issue in TNA work. To conclude, we propose the following key insights, which can help to advance the way that gender responsiveness is implemented in the TNA process:

INSIGHT 1. Countries conducting a TNA and the accompanying methodological approaches have made a lot of progress in recognising the importance of women's contributions in the decision-making process, and their role as stakeholders, agents of change, and experts across sectors. Progress has been made in understanding how gender mainstreaming will lead to more successful long-term solutions to climate change. It is important to note however, that there is still room for improvement and hence, efforts to mainstream gender in TNA processes should continue.

INSIGHT 2. There is often a pre-existence of gender action plans and expertise at the national level. Gender being a national priority has benefitted these countries' TNA teams. It is important that TNA teams learn the nuances of the gender conversation in their national context. In the broader consultation process, TNA teams should not shy away from putting these issues on the table, to help others make the connections between the TNA work and the gender issue. By nuances, it is that intersectionality needs to be considered e.g. across different variables such as institutional (economics, policy) as well as technology-specific (divergence of use, access of resources, equal access, job creation, etc.).

INSIGHT 3. TAPs support concrete gender-responsive actions, indicators, and in some cases also gender-responsive budgeting, which it is hoped countries and stakeholders involved in the TNA process will take into the implementation stage. Overall, this underscores how the TNAs, TAPs and project concept notes help to build capacity on gender mainstreaming. In addition, ensuring a gender-mainstreamed TNA approach benefits the development of gender-responsive NDCs and other national climate strategies, where sector-specific gender considerations are often relatively low.

INSIGHT 4. For the first time, all major climate financing mechanisms have gender mandates. Inclusion of gender is increasingly becoming a requirement for receiving climate-change and development funding from donor agencies. Through capacity building on climate technologies and gender, the TNA supports countries in preparing project concept notes for these funding agencies that are more gender-responsive, and thus increases the likelihood that they will obtain funding for project implementation and ultimately, implement more impactful and sustainable climate-change solutions.

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