

**Inputs from FAO to the overview note on impact, vulnerability and risk assessments
for consideration by the Adaptation Committee at AC 30 (agenda item 4)**

1. What practical example or case of applying an impact, vulnerability and risk assessment would you highlight, and in what country, region or adaptation context?

As a UN technical agency, FAO routinely applies impact, vulnerability, and climate risk assessments across varied geographical regions, ecosystems, and agrifood systems for its developing country members. Led by the OCB Climate Risks team, and with sectorial insights from different FAO technical divisions, FAO has developed a series of tools to facilitate the process and adapt the climate risk assessment to the needs of Member nations, while also developing capacity development processes.

Our most practical examples operate at three distinct tiers of adaptation contexts:

1) In-depth Climate Impact Potential Assessments: To support the formulation of climate change adaptation projects for the Green Climate Fund (GCF), we conduct highly detailed risk assessments. These utilize the IPCC risk framework — integrating climate, environmental, and socio-economic data — to identify specific high-risk geographical areas and vulnerable agrifood systems (crops, livestock, forest, fisheries, aquaculture) that urgently require adaptation investments. Example: [Somalia](#).

2) Macro-level Assessments for Policy Formulation (NAP Context): We conduct similar, wide-scale risk and vulnerability assessments to support the development of National Adaptation Plans (NAPs) and national climate change strategies, focusing on systemic risks to national food security and agricultural sectors (including cropland, grazing land, forestry, fisheries and aquaculture).

3) Rapid Climate Risk Screenings (GEF Context): On a more routine basis, rapid climate risk screenings are performed during the formulation of all Global Environment Facility (GEF) projects. Crucially, these are applied globally across our portfolio, even when the primary project objective is not explicitly focused on climate change adaptation.

Example: In Cambodia's Northern Tonle Sap Basin, FAO screened climate risk information in the context of four priority agricultural value chains: cashew, mango, organic rice and vegetables. The assessment considered observed and projected climate hazards and linked these risks to specific stages across the selected value chains.

2. What was the assessment intended to inform, and how were its findings used in adaptation planning, prioritization, implementation, investment or other relevant decision-making processes?

The primary intention across all our assessments is to ensure they do not exist in a vacuum, but rather serve as direct catalysts for specific actions and investments:

1) Unlocking and Directing Investment (GCF): The GCF assessments are explicitly intended to provide the robust, high-quality scientific evidence required to justify international climate finance. The findings are used directly to prioritize geographic target areas and to explicitly define and justify the specific adaptation activities that will reduce the identified risks.

2) Strategic Prioritization and monitoring, evaluation and learning (MEL) (for NAPs): Assessments conducted for NAP processes and other national policies are used to prioritize national adaptation goals, e.g. sub-nationally. Importantly, the baseline data generated is intended to establish adaptation indicators, allowing countries to monitor and evaluate progress against the specific risks identified in the assessment.

3) Modifying Project Design (GEF): In the context of GEF project formulation, rapid screenings are intended to inform risk management. When risks are identified, project formulators are mandated to adjust project activities to better manage and mitigate those risks, effectively climate-proofing the investment.

Example: Saint Lucia, 2025-2026 “Adapt-FOR-StLucia” GCF Readiness project:

To support the implementation of the country’s national adaptation plan (NAP), an updated climate risk assessment was able to downscale global climate models and correct bias with local station data, achieving high spatial granularity for this small island developing state. In addition to assessing climate hazards, exposure, vulnerability and adaptive capacities, this climate risk assessment assessed climate impacts on forests and other key ecosystems through species distribution modelling of prioritized tree species linked to livelihoods, biodiversity, and cultural heritage. Tailored to the forestry sector, this climate risk assessment generated key data on the island’s forests and forest-dependent communities, which are in the process of being integrated into national forestry policies and sectoral adaptation programmes. The next step is to tailor the risk assessment methodologies to different sectors, including crops, livestock, forestry, fisheries and aquaculture. Through innovations such as the integration of fire weather indexes and efforts such as stakeholder consultation and validation sessions, these climate risk assessments can inform capacity development processes and local adaptation planning.

Example: In Cambodia, a key strength was the progression from climate-risk evidence to practical adaptation decisions. Value-chain diagnostics, technology screening and stakeholder consultations translated risks into concrete adaptation and investment priorities, while implementation generated experience to inform future scaling.

3. What were the principal enabling factors and challenges in moving from assessment to practical application?

The strongest enabling factor for practical application is the presence of a mandatory financing or institutional requirement. For example, the GCF’s strict requirement for a robust evidence base as a condition for project approval acts as a powerful incentive. It ensures that assessments are directly linked to resource mobilization and specific project actions, rather than being conducted merely for the sake of producing a report.

One challenge is the “assessment vacuum”: too many assessments are commissioned without specifying the end utilization of the data. Without a predetermined link to specific actions — such as a funding pipeline or a national Monitoring and Evaluation (M&E) framework — findings frequently stall at the reporting phase.

Another challenge is the limited capacity within many developing countries to independently conduct complex technical risk assessments, leading to a reliance on external experts. While acceptable in the short term, the challenge lies in internalizing this capacity over the next few years.

Another challenge is that country stakeholders often lack the highly specific technical knowledge required to draft effective Terms of Reference (TORs) that prescribe the right assessment design. Furthermore, there are challenges in interpreting the technical results, understanding their broader implications, and actively translating those findings into institutional arrangements and adaptation planning.

Finally, within countries, adaptation planning processes continue to face challenges in interpreting CRVAs, particularly at the subnational level, and translating their findings into appropriate management practices and climate solutions. National-level CRVAs often do not adequately reflect the diverse needs and requirements of different sectors, particularly agrifood systems and ecosystems that are directly affected by climate change. As a result, adaptation plans, including the priorities and investments they inform, are frequently based on existing experience and capacity to implement certain approaches or practices, rather than on their suitability for current or projected climate conditions.

Example: In Cambodia, several factors supported the transition to application. These included: linking climate information to value-chain risks; engaging local stakeholders and agricultural cooperatives; using cooperatives as entry points for implementation and investment; and combining technical assessments with capacity development efforts and consultations. Key challenges include limited capacity, high technology and input costs, limited affordable finance, infrastructure and market constraints, and limited confidence in technology reliability.

4. What key lesson from this experience could be relevant in other contexts, and are there existing methodologies, tools or guidance that the AC should take into account in order to build on existing work and avoid duplication?

A critical lesson is that the choice of methodology or technical partner automatically dictates the scope, limitations, and outputs of the assessment. By selecting a specific technical partner, countries are frequently "locked into" a specific modeling ecosystem, producing information only within that distinct modeling sphere. Decision-makers must be empowered to understand the pros and cons of different methodological approaches before commissioning an assessment, so they can make fully informed decisions that align with their specific national needs.

There is a vast array of high-quality risk assessment methodologies, tools, and digital public goods already available from FAO and other technical agencies. For example, FAO has developed open-access platforms specifically for these purposes, such as the Climate Risk Toolbox (CRTB) (see [Tool Link](#) and [Project Info](#)), which enables comprehensive geospatial climate risk screenings, and the CAVA Platform cavapatform.fao.org, which supports robust climate vulnerability and risk assessments.

Given the availability of such advanced resources, for efficiency, FAO would recommend to build on existing tools, methodologies and other efforts. Our technical experts see no need to develop new, from-scratch assessment guidance. Instead, to avoid duplication, the AC's guidance should focus on helping countries navigate the existing landscape. Providing a "meta-guidance" — such as standardized decision trees, comparative analyses of existing modeling ecosystems, or templates for writing robust Terms of Reference (TORs) — would be immensely valuable in helping countries independently evaluate and select the right existing tools (like CRTB and CAVA) for their specific contexts.

Guidance:

Gialletti, A., Alvar-Beltrán, J., Setti, A., Allen, T., Soldan, R. and Neretin, L. 2025. *Climate Risk Toolbox – Guiding material for climate risk screening* Second edition. Rome.
<https://doi.org/10.4060/cd4543en> Description: <https://openknowledge.fao.org/items/8a7f4859-23b4-4405-bc7c-b920f9020563>

Overview report: FAO and WMO. 2026. *Extreme heat and agriculture – FAO–WMO joint report*
<https://doi.org/10.4060/cd9394en><https://doi.org/10.4060/cd9394en> Extreme heat is a powerful risk multiplier with direct and indirect impacts across all agricultural subsectors (crops, livestock, fisheries and aquaculture, and forestry).