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CLIMATE RISK COMMUNICATION

A guideline for project practitioners working with the Vulnerability Sourcebook and its Risk Supplement

As a federally owned enterprise, GIZ supports the German Government in achieving its objectives in the field of international cooperation for sustainable development.

Published by:

Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH

Registered offices

Bonn and Eschborn, Germany

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Design/layout:

Judith Vanessa Santander Quisbert / GIZ

Photo sources:

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Eschborn/Bonn, 2022

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Dear colleagues,

The climate community at large is well equipped to respond to the technical challenges imposed by the global climate crisis, as they understand what's at stake. But they are usually not communication specialists. Yet, effective communication is crucial in achieving behavioural change in decision makers, stakeholders in different socio-cultural contexts, and at large, today's society. Now, even more so, as we see and witness the accelerating climate crisis unfolding and we find ourselves moving towards the age of adaptation.

Communication should address the specific barriers of different actor groups, which hinder applying more climate-aware behaviour. We have often wondered, if practitioners/"technicians" are in a position to fully achieve this? This publication "Climate Risk Communication - A guideline for project practitioners working with the vulnerability sourcebook and its risk supplement", coordinated by GIZ's Community of Practice Climate Risk (CoP CR) and written by its members will provide you insights on how to make climate risk communication work for different target and informed decision-making on adaptation to climate change.

The CoP CR is an important knowledge platform for supporting the work of GIZ within the broader context of climate change. It fosters the exchange of experiences and provides support to identify best practices on topics such as innovative approaches related to climate risk and vulnerability analysis, climate risk assessment and communication. For this guideline, contributions were made from members from GIZ in Germany and, more importantly, from our colleagues in our partner countries and regions. Particular attention should be given to the fact, that the CoP CR also includes members from scientific and consultancy organisations and with this ensures an exchange between science and practice – between theory and application.

The direct impacts of climate change are manifold, yet their associated risks are highly influenced by geographical, socio-economic, socio-political, and cultural contexts. This means that the conditions for risk-informed behavioural change and decision-making to adapt to climate change across countries, regions and individuals are highly context-specific. There will be no "one size fits all", but solutions can and must be found together with decision-makers at different levels, and together with vulnerable population groups. In this, international cooperation can make an important contribution for and with our partner countries, by supporting approaches to identify innovative solutions and by providing experience from similar contexts.

We would like to express our gratitude to the CoP Climate Risk members, who have invested their time and energy in finalising this timely and important guideline. And for everyone, who will be using this guideline: we wish you well in your climate risk communication endeavours. May they create the behaviour change necessary for adaptation on climate change – globally.

Competence Centre Climate Change, GIZ

Dr. Jörg Linke

Head

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Advisor

About this publication

Founded in 2017, the Community of Practice Climate Risk (CoP CR) offers a forum for sustained and coordinated peer learning, exchange, and innovation among globally leading experts in the field of climate risk with strong ties to German development cooperation. The technical exchange among experts within GIZ, and especially also with external experts & service providers (e.g., from science and consultancies), conducting climate risk and vulnerability assessments (CRVA) is highly valuable for the work conducted by the German development cooperation and GIZ in particular.

CRVA can serve different purposes including awareness raising, identification of adaptation needs and gaps as well as adaptation measures, guiding and incentivizing investments and monitoring of implemented adaptation measures and evaluation of their successes. In addition to sharing knowledge and implementation experience, the CoP CR and its workstreams aim to develop orientations and guidelines about climate risk, and to make these available within and outside of the community.

Further information can be found at: <u>https://www.adaptationcommunity.net/climate-risk-assessment-management/community-of-practice-on-climate-risk/</u>

One of the CoP CR's workstreams deals with the topic of risk competence and integrated climate risk communication (workstream "Climate Risk Communication"). This work area is intended to support the competent application of the results of risk and vulnerability analyses for decision-making on individual and collective adaptation strategies. This includes a variety of communication means that can be relevant and helpful to better assess the evidence and associated uncertainties of climate risk and vulnerability as well the resulting options for adaptation action to be chosen.

The present guideline was developed jointly by members of the CoP CR between 2020 and 2022 with the aim to provide directions on the preparation and implementation of communication approaches and the dissemination of results to different users and target groups for the improved uptake of the results of CRVA.



Chapter 1: Introduction

Why this guideline? How was this guideline developed? Who is this guideline for? What does this guideline offer? When to consult the guideline?

Chapter 1: Introduction

Why this guideline?

The GIZ Vulnerability Sourcebook (GIZ, adelphi, EURAC, 2014) offers step-by-step guidelines for climate vulnerability assessments. The focus of the sourcebook is on the assessment of vulnerability in the context of the IPCC AR4 (IPCC, 2007) terminology and approaches, thus providing guidance on vulnerability assessments to determine climate change adaptation options. As the IPCC AR5 (IPCC, 2014) and the IPCC SREX (IPCC, 2012) moved from focusing on vulnerability to focusing on risk of climate-related impacts, GIZ and EURACs Risk Supplement (GIZ & EURAC, 2017) took account of this change and provides a guideline on how to work with the Vulnerability Sourcebook using the IPCC AR5 risk concept.

The general approach of the Vulnerability Sourcebook with its step-by-step approach in eight modules, which are based on impact chains, indicators and (semi-)quantitative assessments, has been further developed in its methodology. The approach has itself proven successful in its application. The Vulnerability Sourcebook has been applied in a multitude of CRVAs in different countries and project contexts.

However, the communication and translation of findings of assessments to its target users and target groups remain a challenge. In this, the steps to incorporate communication approaches into CRVA is particularly difficult for many decision-makers in partner countries. Consequently, approaches to communicate results of CRVA remained often at unplanned and unstructured levels, which, in the worst case, questioned their effectiveness, impact and ultimately limited their uptake and required action.

Therefore, the Community of Practice Climate Risk (CoP CR) took the decision during its 2019 thematic priority planning to develop a guideline on the communication of climate risks, as a tool for project practitioners working with the vulnerability sourcebook and its risk supplement. The guideline intends to provide a direction on how to prepare and implement suitable communication approaches and on how to disseminate results to different users and target groups for the improved uptake of CRVA findings.

How was this guideline developed?

Between 2020 and 2022, members of the CoP CR developed this guide jointly in a four-step process.

Step 1: a needs assessment was conducted among CoP CR members between July and September 2020, in which nearly 80 colleagues and experts from the climate risk community participated in an online survey. The results of the survey provided information on the need and relevance of a guideline on the communication of climate risks.

The results of the survey showed the high relevance of the topic among all (international, national, local) CoP CR members. While respondents were unanimous that climate risk communication was (very) relevant to their work context, few respondents seemed to have detailed orientation on the communication of climate risk. Most respondents to the survey indicated they did not have access to a standardized step-by-step approach and thus "relied on sharing ideas and experience with colleagues."

What is the relevance of climate risk communication in your current working context?

- "Climate risk communication is a core output of the project!"
- "Climate risk communication builds a basis for policy advice and decision-making!"
- "Communicating climate risks is a key aspect for bridging CRA results with adaptation action and finance!"
- "Climate risk communication is part and parcel of mainstreaming processes!"
- "Communicating about evidence and uncertainty is one of the bottlenecks to increase awareness of decisionmakers and society!"
- *"There is a large potential for reflecting on how to communicate specific climate risks better!"*

Figure 1: Selected results from the CoP CR needs assessment on climate risk communication.

Step 2: a webinar with the objective to share experiences and identify knowledge gaps in climate risk communication that should be covered by a guideline was held. Around 100 members of the CoP CR and other interested parties participated at this event, which was held in February 2021. During the webinar, participants presented, learned about, and discussed approaches and experiences of climate risk communication approaches practised in different partner countries and project contexts (Bangladesh, Brazil, Costa Rica, Thailand, Togo). In addition, the proposed content and options for the development of a corresponding knowledge product were discussed and selected.

As a result, the webinar concluded in defining the following priorities for the preparation of a guideline on climate risk communication, and what it should entail:

- A step-by-step guideline on how to approach communication-related aspects of climate risks;
- A list/catalogue of best practices and examples from projects aiming at the reduction of climate risks and adaptation to climate change;
- Recommendations on how to communicate climate risks to decision-makers at national and/or subnational levels; and
- Recommendations on how to communicate climate risks to target groups at local levels.

Step 3: a draft version of the guideline was developed between March 2021 and February 2022. For this purpose, a sub-group of CoP CR members was formed from GIZ headquarter and field staff, as well as members from the scientific community and consulting firms. In regular meetings, the structure and content of the guideline was discussed, adapted, and drafted.

Step 4: a final draft version of the guideline was presented to CoP CR members at a technical workshop in February 2022. Further adjustments were made thereafter, based on feedback and comments.

The final version of the guideline was launched in November 2022 and made available to the CoP CR members. At the same time, the document was published to a wider audience on the Adaptation Community knowledge platform:

https://www.adaptationcommunity.net/climate-risk-assessment-management/community-of-practice-onclimate-risk/

Who is this guideline for?

This guideline is meant to be a tool for the members of the CoP CR as well as for colleagues of projects within the wider network of German Cooperation for Sustainable Development, and their partners. We believe that this guideline is relevant for projects that are tasked with the preparation and implementation of CRVA – especially those following the GIZ Vulnerability Sourcebook and Risk Supplement approach – and would recommend the use of this guideline. It is addressed to specialists, consultants and scientists who are conducting such analyses. The guideline provides an orientation on how to (co-)create, prepare and effectively communicate the results of CRVAs in a user-friendly and target group-oriented way.

What does this guideline offer?

Based on the experience of selected GIZ-implemented projects that were in the process of implementation during the time frame between 2020 and 2022, this guideline offers insights and lessons learned on the preparation and implementation of climate risk communication approaches. In addition, complementary publications from GIZ, partner institutions and communication science and related disciplines were consulted.

Following the introduction in chapter 1, an overview of climate risk communication terminology and concepts will be provided in chapter 2. Details on what climate risk communication is, what it entails, what should be considered in the context of strategic approaches, which stakeholders and target groups it is aimed at, and how to ensure their involvement in the context of participatory approaches are elaborated in this chapter. Chapter 3 focuses on experiences and best practices approaches of climate risk communication as well as the resulting outcomes from selected GIZ projects in Bangladesh, Bolivia, Brazil, Costa Rica, Kazakhstan / Georgia / Vietnam, Thailand, and Togo. Chapter 4 provides guidance on the development and implementation of a proper and step-by-step climate risk communication approach. Consisting of seven steps, the guideline includes aspects of participatory and gender-positive ways for gaining an accurate understanding of the context, objectives, targeted outcomes, and the framework of the communication approach will be addressed likewise. The concluding chapter 5 presents a participatory step-by-step approach for communicating the degree of confidence in CRVA findings, and lists further GIZ sources and information on the topic of climate risk communication that can be consulted.

When to consult the guideline?

This guideline should be consulted whenever a CRVA is planned as part of a project in the broader context of a) assessing and addressing climate risks of one or several thematic sectors (e. g. agriculture, biodiversity, human health, economic development) or areas (e. g. country-wide, regional, urban/ local, coastal zones), b) elaborating adaptation strategies and measures, and/or c) providing support to the development and implementation of NDC and/or NAP strategies.

The guideline provides an overview of the resources needed and possible methodological challenges encountered when developing a communication approach of CRVA, and how to overcome them. Moreover, it provides guidance and support to its implementation and evaluation.

Please note that this guideline should be embedded in the modular scheme of the eight modules of the Vulnerability Sourcebook (GIZ, adelphi, EURAC, 2014) and its Risk Supplement (GIZ & EURAC, 2017), supplementing it as a ninth module with detailed communication aspects. It is therefore advisable to consult the present guideline in parallel with, and complementary to, the application of the Vulnerability Sourcebook and the Risk Supplement.



Chapter 2: Climate risk communication – terminology and concepts

How to define climate risk communication? What needs to be considered in climate risk communication? How to identify and involve stakeholders in climate risk communication?

Chapter 2: Climate risk communication – terminology and concepts

This chapter aims to provide the terminology and concepts to effectively communicate climate-related risks to different users and target groups. It deals with the question of how climate risk communication is understood, what it includes and how stakeholders and target groups can be involved in a participatory way. The chapter thus provides a conceptual foundation for the upcoming Chapter 4 which will guideline the way to preparing and implementing a communication approach on climate risk.

For this reason, the chapter addresses three fundamental questions: a) How to define climate risk communication?, b) What needs to be considered in climate risk communication?, and c) How to identify and involve stakeholders in climate risk communication?

2.1 How to define climate risk communication?

Risk, in the context of climate change, is defined as the "potential for adverse consequences for human or ecological systems, recognizing the diversity of values and objectives associated with such systems. In the context of climate change, risks can arise from potential *impacts* of climate change as well as human *responses* to climate change" (Reisinger, Howden, Vera, et al., 2020:4). Climate risk is determined by the interplay of exposure, vulnerability and extreme climate events, the latter of which is dependent on natural variability and anthropogenic climate change (IPCC, 2018). Reducing exposure and vulnerability to climate events is thus key to reducing the likelihood of adverse climate effects (climate risk).



Photo 1. GIZ Bangladesh

In the context of responding to climate change, risk communication can be understood as a process of exchanging and sharing information about climate-related risks and its underlying factors. Risk information can relate to the existence, nature, form, likelihood, severity, acceptability, response measures or other aspects of risk and is shared between various knowledge holders, decision-makers and other stakeholders, including researchers, technicians, advisors, managers, practitioners, members of the public, authorities, media, interest groups, etc.

Climate risk communication may also include the concept of climate services, which are generally understood as "customized products such as projections, forecasts, information, trends, economic analyses (including technology assessments), counselling on best practices, development and evaluation of solutions and any other services in relation to climate that may be of use for society at large" (European Commission, Directorate-General for Research and Innovation, Jacob, Runge, Street, et al., 2015:10). Climate-related services combine climate information and data with other relevant information, to be used by targeted end-users.

Numerous publications on *climate change* communication already exist. However, few of them address specifically the challenges related to the communication of *climate risk*. We therefore refer to climate risk wherever possible, when specific information is available – such as in the context of CRVA - or when we draw on our own experience and conclusions in dealing with communication-related aspects of climate risk. Or else, our conclusions are both drawn from existing literature and experience in the field of climate risk.

The next subchapter will outline which considerations might be useful to be included in climate risk communication.

2.2 What needs to be considered in climate risk communication?

The following four central questions can help to guide how to approach climate risk communication:

• How to communicate effectively (*method*)?

The most common method of conveying climate change information by experts or communicators is still the use of 'one-way' public presentations and talks (McLoughlin, et al., 2018), which may include the results of climate risk and vulnerability studies and respective data.

Yet there is an increasingly widespread recognition of the importance of participatory approaches. In these, the aim is not to simply "inform" different target groups and users about the results, but to enable them by using a specific and tailored approach to use the available sources for informed decision-making. It is therefore important that the communication approach will be prepared specifically for these groups and communicated according to their existing level of knowledge (Grothmann, 2017).

A key principle for effective climate change communication is the creation of opportunities and the use of methods that are engaging and co-produced. These could include the establishment of engaging dialogues that allow the communicator a better understanding the audience's values and interests, which in turn supports efforts to tailor messages to different audiences and their needs, as well as the utilization of creative storytelling.

• Who to reach (users of climate services and information)?

Target groups and users of climate services and information can vary depending on the scope of the communication approach. They may include employees working in the public and private sector, civil society organizations, media, education, and can range from actors at the national to local level, but, for example, can also include multipliers (for example, trainers of trainers (ToT)) and vulnerable communities.

In engaging with these groups, it can make sense to question how to reach out to new and/or specific audiences instead of addressing an audience often composed of the same, already engaged people (McLoughlin, et al., 2018).

• What to communicate (narrative)?

Climate risk is a complex topic characterized by a high level of uncertainty and affects people all over the world in different ways. A strategic communication approach gives the opportunity to increase understanding and awareness of the user group through scientific clarity and accuracy.

Regardless of the narrative chosen, it is highly advisable to avoid catastrophism in communication, as it

can lead to a defensive reaction by the audience. Rather, using stories and target group specific narratives which may include "good" and "promising" examples is a powerful tool to build common ground on which effective communication can take place. By integrating narratives and context-specific examples into climate risk data and information, according to (McLoughlin, et al., 2018), resonation with the audience can be achieved.

What do we want to achieve (aim)?

Every communication is usually based on a purpose. A goal for all communication should be, that it catalyzes action, which is based on the acquired knowledge and needs of the users and target groups.

Although awareness of climate risks already exists in many different contexts, groups, and individuals from all sectors of government, economy and society, this awareness does often not yet result in enough action to achieve long-term targets and results. It will therefore be important to translate technical and scientific data into financial and management information for decision makers to move beyond working on effective and interesting narratives for climate risk communication.

However, scientific approaches from environmental psychology have looked at the question on how information and knowledge deficits can be overcome. Based on empirical studies, it is assumed that there is usually only a slight correlation between climate risk knowledge and action. It is seemingly a multitude of social, cultural, economic, political, infrastructural and natural factors that play a role and need to be taken into account (Grothmann, 2017). Only with sufficient consideration of these factors will it be possible to achieve problem- and action related reflections among the target audience and nurture the intention to act, based on the information provided. The following graphic depicts a framework model on the different factors leading from communication to action.



Figure 2: Overview of factors leading from communication to action (adapted from Grothmann, 2017)

2.3 How to identify and involve stakeholders in climate risk communication?

The involvement of stakeholders is an important component in climate risk communication. When stakeholders participate, a common understanding and involvement in the decision-making process can be achieved and in the case of climate risk communication, stakeholders can be included in strategic communication plans and processes.

To determine whose interests should be considered, it is recommended that a stakeholder analysis should be



to systematically gather and analyze qualitative information.

carried out in the beginning of the climate risk and vulnerability assessment

However, the point needs to be made, that the level of stakeholders' involvement strongly depends on their level of influence with regards to the identified risks, how are they affected by those risks, but also their contribution to proposed solutions and the decision-making processes (Ndlela, 2019). Assessing the level of influence and interest of identified stakeholders should therefore enable the communicator(s) to identify and prioritize the relevant stakeholders. This will additionally help to establish the appropriate level of communication relative to their influence. Finally, stakeholders should not only be kept informed but also actively engaged in consulting. This ensures empowerment and joint ownership of the communication.



Chapter 3: Best practices

Bangladesh Bolivia Brazil Costa Rica Kazakhstan, Georgia and Vietnam Thailand Togo



Chapter 3: Best practices

This chapter presents a compilation of experiences on the preparation and implementation of climate risk communication approaches. These were collated from various GIZ projects located in nine different countries, namely Bangladesh, Bolivia, Brazil, Costa Rica, Kazakhstan, Georgia and Vietnam, Thailand and Togo. Project examples range from sectoral approaches in river basin management, agriculture, economic development, water, and health to more thematic areas in national and subnational climate risk governance.

For reasons of readability and comparability, the project examples are presented in tabular form. In addition to naming the project country and the sector within which the communication approach was performed, the project title and duration, a short overview description, the communication type or method, resulting products and the outcomes are listed. Links to further information as well as the names of the main contact persons for further inquiries complement this overview.

Project country	Sector	Project title	Duration	Overview	Type/method of communication	Products	Outcomes	Further infor- mation/ links	Contact (name. surname@ giz.de
Bangladesh	National climate risk governance	NAP and NDC Support Programme	2019-2021	The project supports selected sector ministries in Bangladesh in the use of improved capacities and processes for integrating climate risks and national adaptation goals into planning and decision-making at national and local level. The implementation of the NAP and the NDC are supported through capacity development and knowledge enrichment of the relevant Government ministries and Departments. The NAP and NDC Support Programme aims at improving capacities and processes for integrating climate risks and national adaptation goals at national and local level.	The project systematically addresses the existing incoherence between climate policy objectives and other sector specific strategies. It supports the government of Bangladesh in achieving an effective increase in climate resilience through an adequate consideration of climate risks and national adaptation goals within the planning processes of development measures. To this end, the capacities of selected ministries and their local authorities are being enhanced. Knowledge and skills of the officials for improved integration of climate risks and national adaptation goals are strengthened through tailored participatory and communication approaches. The exchange and cooperation between sector ministries and climate information providers are promoted.	Participatory research-based climate information brochures and inventories, where all the relevant and available climate information sources for Bangladesh are being compiled in one place. In addition, demand-oriented and up-to-date gender- sensitive climate information is being made available for systematic use by the ministry officials.	The communication approach enables policy makers and other stakeholders in Bangladesh to access and utilise climate information for climate adaptive development planning.	<u>NAP and NDC</u> Support Programme	Emilia Huss

Project country	Sector	Project title	Duration	Overview	Type/method of communication	Products	Outcomes	Further infor- mation/ links	Contact (name. surname@ giz.de
Bolivia	River basinmanagement	Integrated rural develop- ment at river basis level (PRO- CUENCA)	2018-2023	Climate change directly impacts the availability and scarcity of water across Bolivian river basins. A pilot action explored links between climate risks, vulnerability and adaptation in the Azero and Guadalquivir River basins. The main purpose of the activity was to help the members of river basin platforms and water user organizations to identify, integrate and implement resilient adaptation water management innovations and practices.	In close cooperation with the Technical and Social Committee of the River basin Platforms and the coordination group of key stakeholders in both river basins, the project supported the development of an online workshop series to: a) elaborate and quantify climate impact chains, b) identify the areas were higher climate risk is predicted, c) develop a virtual dialogue between local communities and policy makers to enhance the ability of technical and policy makers to integrate considerations of site-specific climate risks into planning processes. Robust Decision Making (XLRM approach) was used to draft a strategy against multiple future scenarios and critical climate uncertainties at the river basins.	Climate impact chains were developed, discussed and reviewed in virtual workshops, in which concerns of water users, communities, and stakeholders were expressed on the increasing impacts of climate change. Graphic presentations and a video showed proposed adaptation options and were discussed with the target group. Brochures and didactic material helped to communicate potential impacts of climate change and adaptation responses. In addition, in a community gathering a poster describing climate risks and adaptation options was presented.	The communication approach helped to create an exchange and a common understanding among workshop participants of the risks and vulnerabilities related to climate change in the river basins. At the same time, robust decision making to prioritize adaptation measures was based on clear information of the climate risk assessment.	Evaluación del riesgo climático en la cuenca Azero, Chuquisaca Evaluación del riesgo climático en la cuenca Guadalquivir Marco de modelación y Toma de decisiones robustas en la gestión de los recursos hídricos en la Cuenca Guadalquivir Marco de modelación y Toma de decisiones robustas em la gestión de los recursos hídricos en la Cuenca Azero	Carlos Saavedra

Project country	Sector	Project title	Duration	Overview	Type/method of communication	Products	Outcomes	Further infor- mation/ links	Contact (name. surname@ giz.de
Brazil	Sub-national climate risk governance	Supporting Brazil in the implementa- tion of its National Agenda for Climate Change Adaptation (ProAdapta)	2017-2023	The project supports Brazil to effectively implement its national agenda for adaptation to climate change at national, federal, and municipal levels. One of the project's implementing partners has been the municipality of Salvador da Bahia in which a climate change panel was officially launched at the UNFCCC Regional Climate Week for Latin America and the Caribbean (LACCW) in 2019. The panel consists of a network of regional and local universities and research institutions, with the aim to advising decision-makers about climate-related risks and vulnerabilities and adaptation options on a scientific basis.	In close cooperation with the municipality of Salvador and the coordination group of the Salvador Climate Change Panel, the project supported all the panel's thematic chambers (coastal zones; urban transport; water management; green areas; energy infrastructure and supply; resilience; human health; urban innovation) in the systematic and participatory elaboration and quantification of climate impact chains.	Altogether, eight climate impact chains were developed, discussed and reviewed in a process of co-creation over a six-months course. The final version of the impact chains was included as Annex in the municipal Climate Action Plan (PMAMC) of Salvador, that was launched in December 2020.	The communication approach helped to create an exchange and a common understanding among participants of the Climate Change Panel of the risks and vulnerabilities related to climate change in the urban context and in different key sectors of Salvador.	Salvador Climate Action Plan	Dennis Eucker

Project country	Sector	Project title	Duration	Overview	Type/method of communication	Products	Outcomes	Further infor- mation/ links	Contact (name. surname@ giz.de
Costa Rica	Agriculture	From Farm to Fork – Mainstream- ing Biodiver- sity in Agri- cultural Food Value Chains	2018-2023	The project aims at integrating aspects of biodiversity and ecosystem services into banana and pineapple value chains. To ensure favourable growing conditions in the long term, it is important that producers are informed about expected climate risks and possible adaptation approaches and adapt their cultivation methods accordingly.	The project works together with stakeholders along banana and pineapple value chains, from farm to fork. Close dialogue with ministries in Costa Rica and the Dominican Republic is maintained, to improve the frameworks for agricultural practices that preserve biodiversity. The project is also selecting pilot farms which already implement biodiversity-responsible measures and can underpin recommendations with practical lessons learned. Moreover, the project uses the "Agricultural Biodiversity Check", a diagnosis tool that guides farms towards the implementation of a Biodiversity Action Plan. The project developed a training programme for farm managers and producers on farming for biodiversity.	Implementation of biodiversity- friendly practices on farms and thus making their activities less impactful and more resilient to climate change. A manual with the systematization of success stories in the implementation of biodiversity and climate change measures. An online training course and presentation on the use of meteorological data for decision-making in the agricultural sector was developed and conducted, including topics such as: "Why the climate is changing and how to adapt your farm?", based on a case study in the humid tropical region of the Caribbean of Costa Rica.	The communication approach contributed to a paradigm change in agricultural and farming practices by sharing experiences and showing success stories.	<u>From Farm to Fork</u> <u>Project</u>	Sussan Morales

Project country	Sector	Project title	Duration	Overview	Type/method of communication	Products	Outcomes	Further infor- mation/ links	Contact (name. surname@ giz.de
Kazakhstan, Georgia and Vietnam	Economic development	Policy Advice for Climate Resilient Economic Develop ment (CRED)	2019-2022	The project has developed macroeconomic models that include climate change impacts and enables national institutions to apply the models to different climate change adaptation scenarios for economic sectors. The modelling results are used to inform national economic development and adaptation planning.	The project provides extensive training in climate economics for model developers and model users, who then enable authorities in the pilot countries to include the impacts of climate change and appropriate adaptation measures in their development planning. In Kazakhstan, Georgia and Vietnam, the project receives support from specialised institutes conducting economic structures research with regards to modelling and holding the training courses. In addition, the project advises ministries on applying findings from the modelling to prioritize adaptation investments and ensures that their economic development pathway is climate resilient in the long term. It also promotes international exchange by sharing project experience and developing communication materials.	In each project country, 15-30 economists participated in the trainings. Communication material such as field reports/ policy briefs, modelling reports and visualizations/ dashboards are being produced and include national reports on the analyses of climate hazards. Sectoral policy briefs on the economy-wide effects of adaptation in different sectors of economy were written. A practitioner's guide on climate economic modelling for sustainable economic development was developed. A policy brief on macroeconomic models for climate resilience was written.	Through climate economic modelling, the following was answered: (1) what are economy-wide effects of climate change and adaptation measures? (2) in which sectors are economic effects of adaptation measures most pronounced and (3) what economic instruments will support climate- resilient economic development? Results will be fed into policy processes.	Policy Advice for Climate Resilient Economic Development	Dana Yermolyonok

Project country	Sector	Project title	Duration	Overview	Type/method of communication	Products	Outcomes	Further infor- mation/ links	Contact (name. surname@ giz.de
Thailand	Water	Thai-Ger- man Climate Programme	2018-2022	The project supports the Thai government to mainstream adaptation to climate change, including Ecosystem-based Adaptation (EbA), into water policies and planning processes. It supports institutional and technical capacity building to strengthen understanding and management water- related climate risks and to enhance the development of climate-sensitive river basin plans that are based on climate risk and vulnerability assessments. It follows a participatory multi- stakeholder approach.	Mainstreaming climate change adaptation and EbA on the national and river basin level builds on a comprehensive capacity building programme and an interconnected series of knowledge management products. The development of a national guideline for climate-sensitive river planning will set the regulatory framework for the River Basin Committees to engage in climate- sensitive basin planning with EbA as a key strategy for adaptation. The three-phased capacity development programme and accompanying knowledge products render all involved stakeholders fit to engage in identifying, selecting, planning and implementing suitable EbA solutions in the respective river basins.	A policy brief series stipulating the need to integrate climate change adaptation into the Thai water sector and promoting EbA solutions was written. A guideline on climate-sensitive river basin planning setting forth the consideration of climate change adaptation and EbA for water management at river basin scale was published. An 'EbA Guidebook' to guide decision-makers in the water and other related sectors on the EbA cycle was published. An 'EbA Code of Practice' offering blueprints of EbA options and technical guidance was written. A 'River Basin Master Plan Toolbox' compiling concepts and tools to facilitate participatory processes for river basin planning was created.	Developing context- specific guidance products for policymakers and practitioners, accompanied by on-the-job trainings, is key to enhance knowledge on different aspects of EbA and to help enable policymakers and practitioners to make informed decisions. The multilevel and interconnected approach paves the way for a broader uptake of EbA as an adaptation and water management strategy in Thailand.	Thai-German Climate Programme – Water Fostering Ecosystem-based Adaptation in River Basin Planning for Yom and Sakaekrang River Basins in Thailand Thai Water stakeholders strengthen knowledge on Integrated Water Resources Management	Lisa Hunsinger

Project country	Sector	Project title	Duration	Overview	Type/method of communication	Products	Outcomes	Further infor- mation/ links	Contact (name. surname@ giz.de
Тодо	Human health	Health Sys- tem Strengthen- ing – Sexual and Repro- ductive Health and Rights / ProSanté	2020-2023	The project aims at increasing the access of the population to high-quality health care services, especially in sexual and reproductive health. The topic of climate change adaptation in the health sector is transversally integrated and contributes to fostering Togo's Health Governance. Besides a CRVA on three diseases (malaria, meningitis and acute respiratory infections), a Health National Adaptation Plan was developed.	From February to December 2019 the project supported the Togolese Ministry of Health with the elaboration of their first CRVA in the health sector. The national study on three diseases (malaria, meningitis and acute respiratory infections), using quantitative and qualitative methods, was carried out with the support of a consortium of external specialists. The consortium applied the Vulnerability Sourcebook methodology. Over the course of the risk and vulnerability assessment, maps to communicate risk were developed. Results from the CRVA were integrated in a training manual.	The following knowledge products were produced: Assessment of Climate Change-related Risks and Vulnerabilities in the Health Sector in Togo (Executive Summary; Final Report, and a report on Challenges and recommendations). Report on challenges in using the DHIS-2 platform as part of the assessment of the health sector vulnerability to climate change. Dissemination Strategy – Assessment of Climate Change-related Vulnerabilities and Risks in the Health Sector in Togo.	Provide information of proposal content for climate funding. Training of ministry members.	ProSanté II : Increase of quality and use of reproductive and sexual health services in Togo CRVA of the Togolese health sector HNAP of the Togolese health sector_	Alina Berendsen



Chapter 4: Guidelines for developing and implementing a climate risk communication approach

Reflect on a communication approach that takes participatory and gender aspects into account Understand the context of your communication approach Identify objectives and expected outcomes Determine the scope of the communication approach Elaborate tools and methodologies for climate risk communication Implement your communication approach Evaluate the success of the communication approach

Chapter 4: Guidelines for developing and implementing a climate risk communication approach

This chapter aims to provide guidelines for developing and implementing a climate risk communication approach to disseminate data, information and insights gained on climate risk and vulnerability assessments to different groups of users of climate services and information. This chapter is closely based on the steps and modules for conducting a comprehensive risk and vulnerability assessment outlined in the GIZ Vulnerability Sourcebook (GIZ, adelphi, EURAC, 2014) and in the Risk Supplement (GIZ & EURAC, 2017) and deals with the question of how to better integrate users at different stages of the process.

When it comes to communicating climate-related risks and vulnerabilities, communication should be considered from the very beginning and be integrated into the whole assessment process. The approaches, outcomes and next steps of the risk and vulnerability assessments need to be appropriately communicated in order to achieve an improved uptake of results and insights into the decision-making process. We therefore recommend that the communication of relevant approaches should be considered in the implementation of all modules of the Vulnerability Sourcebook.

There is only limited information available on the communication of climate risks for project practitioners. Annex chapter 5.2 presents an overview of existing resources related to climate risk and vulnerability assessments and communication. However, to the best of our knowledge, no systematic and step-by-step approach of climate risk communication is available so far.

The main aim of climate risk communication is related to the planning and implementation of the approach, the identification of 'key messages' and findings, the preparation of effective and interesting narratives, the translation of technical and scientific data into financial and management information for decision makers, and the promotion of adaptation action. Normally, the climate risk and vulnerability assessment results in a very dense spectrum of complex information (e. g. maps, impact chains, reports, etc). It is important to distil and prepare the key messages and findings out of that information and subsequently consider how and by what means these can best be communicated to users and discussed with them.

For this, we propose a seven-step process for climate risk communication, which includes the preparation as well as the implementation and evaluation. These steps are presented in more detail below.



Photo 2 – GIZ Bolivia



Figure 3: The seven steps of a climate risk communication approach.

4.1 Reflect on a communication approach that takes participatory and gender

aspects into account

The results of a climate risk or vulnerability assessment can only achieve full impact if they enable robust individual and social learning and lead to adaptation actions. For this, they need to be communicated in a well-reflected way that motivates and enables the intended users to take them into consideration for their decision making. Therefore, as a basis for the communication approach, the target group and its motivation need to be well understood beforehand so the communication methods can be selected and implemented accordingly.

As a fundamental premise of the guidelines proposed here, a two-sided communication approach should be ensured throughout the entire process, not only during the specific last step on the communication of the results, but also during the preparation and the implementation of the climate risk and vulnerability assessment (see modules 1-8 of the Vulnerability Sourcebook).

Together with the stakeholders, consideration should be given to how the communication approach will ensure the participation of the intended climate service and information users in the communication process and how their respective levels of knowledge and experience can be taken into account. Moreover, it should be made sure that information will be presented and discussed in locally relevant terms, in order to facilitate shared understanding of climate risk. In other words, co-generation of knowledge and social learning between the communicator(s) and user groups will be key in developing context-appropriate risk communication approaches.

The earliest possible participation and involvement of intended climate service and information users in the process promises the greatest success of the communication approach. A participatory approach often turns out to be a benefit in itself, as it creates a process of continuous reflection and learning.

As already indicated in a study on Environmental Communication for Sustainable Development commissioned by GTZ in 1999 (Oepen, M., Hamacher, W., and members of the OECD-DAC Working

Party on Development Assistance and Environment, 1999):

"Many implementing agencies realize that environmental projects and action plans often have limited success because the innovation and solutions they offer are not fully "owned" by the people concerned. Reasons for this limited success may include basic constraints resulting from the way people think or behave (...). However, what [persons concerned] perceive is influenced by emotions and socialization, as well as by reason and knowledge".

In this regard, confrontational approaches may, often, lead to

"one-way dissemination [of information with disregard for] understanding, instead of relying on two-way communication [aimed at] `shared meaning` and `win-win` situations".

In cases where non-academic groups and actors are to be involved in the process, approaches may even go so far as to include their worldviews, norms and philosophies, to reflect on and to overcome potential communication barriers. This is particularly the case when the intended climate service and information users have little or no prior experience in dealing with vulnerability and climate risk analysis and, due to this fact, make use of their experience knowledge and apply coping strategies instead of using expected future climate trends, projections and resulting risks as a basis for adaptation approaches. For example, localized and traditional knowledge on climate risks and how to cope and to adapt to them will usually be based on past experience, without including climate scenarios that show *future* paths of climate change impacts. This means that considering perceptions of intended information users often can determine the success or failure of communication approaches.

In this context, a communication strategy should also consider that significant socio-economic inequalities can exist between women and men, which limit or prevent access to education, financial assets, technology, political decision-making, and other valuable resources and can increase property. Inequalities therefore hamper women's adaptive capacity and put women at a higher risk of suffering losses and damages associated with climate change impacts. Climate risk and vulnerability assessments, and corresponding communication approaches, should therefore provide insight into the specific areas in which women suffer significantly higher losses and damages than men.



Photo 3. GIZ Brazil

Integrating gender considerations into comprehensive climate risk and vulnerability assessments is therefore important to avert, minimize and address gender-related losses and damages. The assessment of scientific

evidence on gender-specific impacts of climate change reveals, for example, insights on past and potential future losses and damages specifically for women, while also explaining how social standards create, enhance and determine both vulnerability and resilience in the context of climate change and are therefore critical in the communication process.

Hence while preparing the approach for communicating climate risks and vulnerabilities to information users at different levels, it should be kept in mind that the strategy will need to keep information users continuously informed: a) opportunities for joint collaboration and reflection in the process; b) data sources that will be addressed and reflected upon; c) the methodology applied for conducting the risk and vulnerability assessment; d) its preliminary and final results; and e) potential pathways to address climate change-related risks and vulnerabilities, so that everyone can be aware of the challenges to be faced and the desired adaptation results to be achieved in the sector or region. This level of information is also relevant to ensure accountability to society and partner institutions for the actions to be developed.

4.2 Understand the context of your communication approach

Each approach on climate risk communication takes place in a unique setting. Therefore, the first step is to reflect on its context, based on several practical considerations, such as:

- The identification and participation of the intended group(s) of users.
- The involvement of stakeholders that will be part of the process.
- The overall availability of data and information that will support your communication strategy.
- The resources available, including the amount of communicator(s) (colleagues, consultants, and partners involved) dedicated for the communication approach and the time the project can work on it, including considerations of budget.
- The time available for planning and implementing your communication approach.

In addition to these initial considerations, there should be an awareness of whether the results of the study should also be made available to the broader public. This will require target group specific yet suitable and generally comprehensible language, taking into account especially vulnerable population groups (Grothmann, M., 2017).

Answering these initial questions will help to inform the next steps, such as the objective and the expected outcomes of the communication approach, the determination of its scope, and the preparation of suitable tools and methodologies required for its implementation and possible follow-ups. We therefore strongly recommend to take these initial considerations into account prior to any concrete planning of the communication strategy.

The following table provides an overview of initial criteria to be taken into consideration and shows how to proceed in the context of specific scenarios.

	Criteria	Guiding questions	Scenario A	Scenario B	Scenario C
Users o climate services a informati	Users of climate	Who is the intended user group composed of? What is their level of knowledge about climate risks relevant for their context?	The users of the information provided are clearly defined and a detalled understanding of their knowledge and information needs exists.	Only limited knoledge and information needs are available.	There is insufficient knoledge about the information intended users may require and their knowledge and information needs are unknown.
	services and information		Action: A tailored communication approach should be prepared.	<u>Action</u> : A more detailed understanding about the focal group should be gained before tailoring the communication approach.	<u>Action</u> : A more detailed understanding about the focal group should be gained before tailoring the communication approach.

Criteria	Guiding questions	Scenario A	Scenario B	Scenario C
Landscape of stakeholders	Who are the main stakeholders involved? To what extent do they support the preparation	The communication approach supports the objectives of stakeholders at national govermental levels, e. g. by contributing to the implementation of public policies.	The communication approach supports stakeholders invold mainly at subnational and local levels, e. g. contributing to the sensibilization of vulnerable population groups.	The communication strategy is not yet part od the goals of public: policies or climate change strategies.
/ executing partners	and implementation of a communication approach about climate risks?	<u>Action</u> : If relevant, involvement of stakeholders at subnational and local levels also should be ensured. Plan and conduct consultation meeting well.	<u>Action</u> : If relevant, involvement of stakeholders at national governmental levvers aldo should be ensured. Plan and conduct consultations meeting well.	<u>Action</u> : It shoud be clarified in how far the approach will contribute to policies and/or strategies at national, subnational and local levels.
Data	Are there already vulnerability or climate	Data and analysis on vulnerability and/or climate risks are available. These have already been processed and are publicity accessible.	Data and analyses on vulnerability and/or climate risks exist but are nor prepared for the general, public, and/ or are not publicty available.	Vulnerability and/or climate risks data and analysis for the target region are not yet available.
avaibability	risk assessments available that can inform the communication approach?	<u>Action</u> : Create an inventory of existing data and information. Incorporate these into the communication approach.	<u>Action</u> : Assess "status quo" - what data and information already exists? Make sure that data and information that is available can be incorporated into the communication approach.	Action: Plan sufficient time for data gathering and reorient the assessment based on feasibility, since data (un) availability is a main bottlenech leading to delays and incompleteness of results.
Human and	What human and financial resources are	Human and financial resources for the communication approach is firmly calculated into the project planning.	Human and financial resources to prepare and implement a communication approach will mainly depend on its context.	Very limited possibilities in terms of human and financial resources.
Financial Resources	available for the communication approach?	<u>Action</u> : Prepare a comprehensive and detailed communication approach at the earliest possible stage of project implementation	<u>Action</u> : Gain a concrete understanding of the existing time resources, the intended target groups and the stakeholder landscape to estime the efforts and resources required.	<u>Action</u> : Gain a concrete understanding of the needs of the target group on CVR and assess what communication-related contributions the project can make
	At what atage of project	Project at an early stage of implementation.	Project about halfway through funding period.	Project already close to end of funding period.
Time Resources	Implementation is the planning of the communication approach taking place?	<u>Action</u> : Elaborate a clear plan about the time and period of the implementation of the communication approach.	<u>Action</u> : Reflect on how to comfortably benefit from the remaining project time for implementing the communication approach.	<u>Action</u> : Due to the short time trame available, conseder how a communication approach can be combined with the dissemination of project results.

Figure 4: Criteria for analysing the context of the communication approach.

4.3 Identify objectives and expected outcomes

After analyzing and understanding the context of the communication approach, the next step is to identify its objectives and expected outcomes.

Communication approaches to climate risks can cover a variety of different objectives. However, they are often aimed at making information (more) accessible or understandable to an intended group of climate service and information users. For example, an objective of a communication approach could be to improve farmers' awareness of climate change impacts on the changing annual cycle of cropping seasons. Another example of an objective could be to prepare information for urban planners, which would enable them to design urban infrastructure in a more climate resilient way. The consideration of climate risks in the curricula for primary school pupils could also be an approach for climate risk communication. Finally, it could also be a topic to sensitize project partners for better integrating climate risks into political decision-making processes at national and/or subnational levels.

As diverse as the objectives may be, the important point is to understand them in the context of their intended outcome, as often it will not be the communication per se that underlies the approach but rather the outcome. In general, context-appropriate risk communication approaches support the generation of knowledge and social learning. Hence, an important question is whether and to what extent the approach will support a change in climate risk awareness which will eventually foster, or even result in, adaptive action. Therefore, 'informing someone' is often understood just as a preliminary stage for achieving the intended outcome.

Moreover, for the clarification of the objectives, the intended audience should be asked about their expectation and their own learning target. As shown in Chapter 2, such learning objectives can be quite diverse. These can range from gaining a stronger understanding of a climate risk assessment in the context of a particular hazard scenario or region, to motivating national or subnational governments to support policies that enable vulnerable population groups to adapt and build climate resilience and, ultimately, to incentivizing these groups to take on and implement individual or collective adaptation measures to reduce actual levels of climate risk.

Specifically, with regard to Trainings of Trainers (ToT), the content should not only include skills and knowledge building on how to communicate key messages on climate risk and vulnerability assessment, but also provide basic knowledge about the process of CRVAs and its contents, opportunities, and limitations.

4.4 Determine the scope of the communication approach

Determining the scope of the communication approach means to define its broader content through which its objectives and intended outcomes will be achieved. The scope is also constrained by factors such as available time, financial resources, and characteristics of the audience, as outlined in chapter 4.2. Planning the scope of the communication approach will also include the identification and documentation of climate risk and vulnerability data and information (communication "baseline") that is subject of the communication. The scope should also allow for some flexibility and necessary updating when relevant.



Photo 4. GIZ Costa Rica

A set of at least seven basic considerations should be considered in the planning of the scope:

• *Climate signals*: Which climate change-related signals (e. g., changes in temperature, sea level rise, alternating precipitation patterns) and which reference class (the number of events to which a single-

event probability refers to) will be relevant for the communication approach?

- *Risks and vulnerabilities*: Which climate change-related key risks and vulnerabilities should the communication approach cover (e. g. increased levels of drought putting at risk agricultural yields and income of farmers, floods causing damage and destruction to coastal infrastructure, landslides putting at risk housing at slopes, urban heat islands causing cardiac and circulatory troubles among vulnerable people)? These should be identified and prioritized over the course of implementing the Vulnerability Sourcebook modules.
- *Territorial and sectoral approach*: Will the scope follow a territorial (e. g., national, regional, local) or a sectoral (e. g., agriculture, water management, urban planning) approach or a combination of both?
- *Time horizon*: Which time frame will the communication approach refer to (past, current, or future climate risks)?
- *Uncertainty*: How to deal with uncertainty and robustness of data in the communication approach (see Annex 5.1 for more details)?
- *Adaptation options*: How will adaptation potentials and options be part of the communication approach?
- *Adaptation and mitigation*: Can mitigation issues be addressed together with adaptation options in the communication approach? This may enhance the understanding of possible development pathways as part of a more holistic communication approach (e. g., agroforestry with its adaptation but also mitigation potential)?

4.5 Elaborate tools and methodologies for climate risk communication

Communicating the results of a climate risk and vulnerability assessment will only achieve full impact, if the group of intended climate service and information users is involved in the process from the earliest feasible moment. This will ensure that results and information are presented in an understandable and interesting way, aid in the minimisation of misunderstandings, and contributes to lasting levels of awareness. Only then, results can be communicated in a way that motivates and enables the audience to use the results and to take identified risks into consideration for decision making. For this, the users, their motivation and learning needs need to be well understood beforehand, so that communication tools and methodologies can be prepared accordingly.

Being able to communicate climate risks more effectively will not only mean to convey the results from a climate risk and vulnerability assessment directly to users. Successful communication will depend to a large amount on how information and results are being exchanged and discussed. This should include a variety of ideas and different opinions, helping users to understand nuanced point of views. Also, space and time should be allowed for reflection, which ultimately leads to greater comprehensiveness of the subject. Therefore, good communication will help to build rapport with the target groups.

It is important to bear in mind that for different contexts, different methods might work best. While in certain contexts oral information might work well, other contexts will require written reports. Generally, using mechanisms that already exist is often the best place to start when communicating new messages as pointed out in Tompkins et al. (2005). These mechanisms will be explored in more detail below.

Choosing the right tools and degree of participation

As a first step, it should be distinguished between approaches that use participatory (reciprocal) forms of communication and those that usually do not (for example, websites, podcasts, radio broadcasts).

The results of a climate risk and vulnerability assessment are usually conveyed in the form of figures, charts,

and maps. Participatory forms of communication should be given preference.

Non-participatory formats are best suited when the focus of the communication simply lays on conveying data records and/or on absolute values. However, tools such as websites that contain results from climate risk assessments can be more effective if they are also linked to a participatory communication approach. The creation of a dialogue platform between users and generators of climate information should be supported where possible in such cases. This can additionally help to better clarify and define responsibilities and institutionalize climate risk and vulnerability assessment processes. Capacity development and information campaigns aimed at improving the users' knowledge as well as developing methodological knowledge on making use of data and information should also accompany such processes.

For example, an open data structure can be a potential tool for managing and for making climate risk and vulnerability data and information available to target groups. This is proposed in the Open Data Infrastructure for City Resilience (ODIR): A roadmap showcase and guide (2018), which includes more than 25 examples of cities from around the world that are innovating with open data to manage disaster risks and build climate resilience. Another example for establishing climate information platforms includes the <u>Climate Projections Portal</u> in Brazil. Approaches to prepare the information contained in these platforms included in both cases the preparation of a series of webinars for the target group. This ensured that data and information was passed on and discussed and eventually also led to support the production of more user-friendly approaches for information on climate change scenarios and impacts over time.

Another form of a non-participatory communication approach is the involvement of journalists and tools used in media. For example, a media briefing may provide an opportunity for dialogue and engagement between key stakeholders and media representatives. Many media outlets, especially in developing countries, still do not know about climate risk assessments and government strategies for building climate resilience. A media briefing can bring to light the need for government to engage more regularly with the media through press conferences, or regular briefings and updates. Such briefing should be accompanied by clear and easy visualizations/ infographics which help to attract media attention, together with clear messages. This can also provide a good opportunity for national/subnational government to continue engaging with the public through various media outlets and thereby increase the public's understanding of climate risk assessment.

We therefore recommend, that key stakeholders initiate more programs and incentives to cater for various audiences and to provide a variety of engaging content on climate risk assessments. These can then be easily distributed on social media or used in various awareness and outreach initiatives projects or programs for climate risk assessment. For instance, expositions, artwork, short videos, songs, and other creative outlets including competitions may be used as incentives to encourage dialogue, publicize research, and to raise more awareness on climate risk assessments. Having programs that would regularly raise awareness would help a lot more and would also be more sustainable in distributing messages of climate risk assessments and solutions to diverse audiences. Programs may range from spot advertisements to photographs, real-life stories, radio call-in shows, television panels, or a collection of articles and op-eds. Various stakeholders may also be encouraged to bring solutions to the various climate risks challenges facing different sectors such as fisheries, agriculture, water and so

forth. Websites, blogs, and other means of awareness raising, and dissemination may also be explored to ensure everyone is reached when communicating key insights of a climate risk assessment.

A special case to consider is when climate risks are conveyed to the target group on site in a direct and

participatory way, but without resorting to written material. This is often seen in street theatre or artists performances during events, such as fairs, conferences, congresses, etc. It should be noted, however, that with such approaches, the consideration of the existing knowledge of the public will only be possible to a very limited extent and the required and wanted co-creation is also reduced. While without doubt such methods can generate lasting impressions on audiences, we propose such approaches as complementary, but not stand-alone, options in communication strategies.

Elaborating figures, charts, and maps

As a second step, the elaboration of figures, maps and charts should be considered in the communication approach. A technically correct elaboration of such tools is given in more detail in Module 8 of the Vulnerability Sourcebook (page 143 onwards), which aims at the drafting of the assessment report and on presenting the findings of the assessment (GIZ, adelphi, EURAC, 2014).

In fact, the assessment report of the climate risk and vulnerability assessment should serve as the most important basis for the development of all communication-related tools and methodologies: This is because the report will contain all the essential background information, contents and results that are relevant for the communication approach. All in all, the assessment report should consist of four central parts, i. e. a) context and objectives, b) methodology and implementation, c) findings, and d) conclusions and lessons learnt.

Since the technical approach to implementing the assessment should also be described in the report, this document is thus at the interface between this module (in which, as already mentioned, the users of climate services and information should have already been involved as far as possible) and the communication with or to the relevant actors and groups. Most importantly, as also mentioned in the Vulnerability Sourcebook, the style and language of the report should be appropriate to the audience.

Preparing methodological approaches for communication

The third step is to prepare appropriate methodological approaches for communicating the findings and results of the climate risk and vulnerability assessment.

As described in the Vulnerability Sourcebook, maps, diagrams and graphs are valuable and compelling tools for illustrating assessment findings. They represent high-level views of data and can aid in the understanding of the results. There are various ways to graphically map the results of the assessment. While map-based representations are recommended for spatial assessments, climate impact maps can be communicated more easily if the climate, spatial exposure, and sensitivity parameters included in the assessment are also mapped. The spatial resolution of all data should be taken into consideration for map-based communication approaches (see page 35 onwards) (Umweltbundesamt, 2017).

Same as maps, impact chains also serve as a very relevant communication tool to facilitate discussions on climate risks, vulnerabilities, and adaptation. As visual outputs they make complex situations and relationships easier to understand (GIZ & EURAC, 2019).

However, while using maps, diagrams and graphs, concrete and emotionally interesting ones should be shown and discussed. When preparing these, one should ask about the relevance and the intention associated with showing each of them, such as: What is the communicative value of each of those to be presented and what are the key messages associated with them? To what extent is the information they contain relevant to the target group? Moreover, there should be awareness that past experiences of climate change can be misleading and do not correspond to more recent climate scenarios. At the same time, these scenarios may not be directly perceptible to the target group. The integration of personal stories and experiences of individuals or population groups (narratives) affected by climate risks and how to (successfully) deal with them can be a possible and promising way to show the relevance of the topic for users and make results from a climate risk and vulnerability assessment understandable.



Photo 5. GIZ Kazakhstan

If feasible, assigning costs and numbers (e.g., by climate economic modelling) to climate change impacts can raise another profile of adaptation, for providing more impetus towards ambitious action on adaptation. For example, macroeconomic models provide additional evaluations of adaptation measures, such as in terms of GDP and employment effects for economic sectors and the whole economy and generate insights into broader and inter-sectoral economic impacts. Therefore, they can serve as a basis to advocate on the urgency of acting on/prioritizing climate adaptation. This is important because given limited resources available, adaptation mainstreaming may appear to 'compete' with various other development priorities (e.g., poverty reduction, social inclusion, mitigation, disaster risks reduction, biodiversity conservation). While the use of macroeconomic modelling for the assessment of climate risks highly depends on the corresponding demand from public policy makers, creating interest for understanding the links between economic development and climate change can be a positive side effect of communication efforts.

It then makes sense to communicate results in a relatively easy way to grasp and 'actionable' messages such as "if you take action in sector x, the GDP will increase by y% by 2050 compared to a scenario without adaptation", or "if you take the following adaptation action x, you can avoid the estimated damage of floods by y% of the GDP by 2050". Such messages can help inform user groups about the aggregate implications of climate change and the role of climate adaptation measures in minimizing or avoiding climate change damages. This is particularly useful, because to gain some traction, climate adaptation needs to speak to the ministries with budgetary power (often the ministries of finance, planning and economy). These ministries tend to have strong convening and decision-making powers. Results from climate economic models help translate the impacts of changes in climate on the various economic activities of a country and the benefits of adaptation measures in quantitative terms in such a way that they are tailored to the specific needs of these ministries.

Combining quantitative information, such as on costs and numbers, with other tools and qualitative analysis facilitates communication processes. Qualitative approaches will be important to cover individual

factors of vulnerability, which otherwise would be missing in the communication approach. To sum up and communicate results, a qualitative interpretation of the complex aspect of an aggregated risk can be more precise and useable than a highly aggregated risk map (GIZ & EURAC, 2019). Once more, qualitative aspects will also be useful for integrating local experience and narratives.

A mix of quantitative and qualitative information is therefore important to obtain a more nuanced picture of climate change impacts 1. It should be borne in mind, however, that qualitative and quantitative results require presentation forms of their own. Calculated climate impacts should be communicated independently from their evaluation. Similarly, each element of climate risk, including results on climate impacts, adaptive capacity and vulnerability should also be communicated separately (Umweltbundesamt, 2017).



Photo 6. GIZ Thailand

However, despite all efforts, in many cases communication may entail a high degree of complexity. We should bear in mind that despite all recent progresses in climate science, great uncertainties can be associated with climate scenarios, hence the range of possible climate futures remains high (Grothmann, 2017). One major challenge is the common expectation that risk should follow a probabilistic approach (=likelihood of a specific impact) while this is hardly possible in practice (GIZ & EURAC, 2019).

At this point, it will be important to achieve the highest possible level of confidence in the communication of data and results, while at the same time pointing out certainties and uncertainties. When communicating results of climate-related assessment findings, communicating clearly the degree of confidence in these is a challenge. Once again, the best way to achieve this is through vivid and interactive forms of communication. While uncertainty can almost never be completely excluded, the level of uncertainty on certain information can help to either assess the level of urgency for action, or for further research. However, as a general guide, the following assumption applies: the more sources agree on an outcome or trend of climate scenarios or assessment, the higher the agreement. The agreement can usually be determined via data analysis and should therefore be considered in the methodology for the communication approach. Annex 5.1 provides a participatory step-by-step approach for communicating the degree of confidence in climate risk and vulnerability assessment findings, based on a recent publication by Becher, Schlönvoigt, Baumert, Lotzen & Borges (2019).

4.6 Implement your communication approach

Generally, when it comes to the implementation of the communication approach, it should be borne in mind that the process should be based on suitable, generally comprehensible language and representation (Umweltbundesamt, 2017:36). Both the objectives and the underlying methodology and concept should be explained well to all information users. Public interest and awareness will greatly increase if climate risk messages are contextualized to the local context and available in the local language. Allowing room for traditional knowledge and narratives to be woven into the key messages of climate risk assessment will also be very helpful. This will ensure more engagement, understanding, and ongoing dialogue on climate risk assessment and adaptation as a solution to increase resilience.

To which extent adaptation options should be integrated into the communication will depend on the scope and the context of the approach. Some studies suggest linking the two processes of conducting the climate risk assessment and identification of adaptation measures, which often also is a preferred option of practitioners planning a climate risk assessment. Yet planning adaptation measures is a time and resource intensive process on its own. Even if a climate risk assessment serves as a communication tool to support the actual adaptation process, it will not directly reveal all the necessary adaptation options (GIZ, 2018:6).



Photo 7. GIZ Togo

Considering all the previous steps from the guideline should allow a successful implementation of the communication approach. From the experience of the projects involved in the development of the guideline, the implementation can include a rather short one-time webinar format as well as the format of a whole workshop series with the information users in the field, which can extend over several steps and a period of several weeks, or even months.

It is also possible to tailor specific aspects of the climate risk and vulnerability analysis to specific user groups. For example, different workshop formats for public sector stakeholders and with private sector stakeholders have proven effective in the past. In any case, it should be made sure that relevant decision-makers will be sufficiently integrated in the communication.

As suggested before, another important factor to think about: who will be presenting the outcomes of the climate risk and vulnerability assessment? If methodological aspects shall be emphasised, a member of the implementation team makes a good ambassador. But if the aim is to contribute results to an on-going policy process, one might want to consider an influential stakeholder associated with the assessment (GIZ, 2015:147), hence bringing together stakeholders from various levels.

Finally, it should be remembered to include the names and/or logos of assessment participants; this can improve the credibility and impact of results.

4.7 Evaluate the success of the communication approach

Once the communication approach has been implemented, it can be helpful to evaluate its effects and successes for contributing to broader knowledge management and experience building about climate risk communication. This will help to achieving a broader understanding of what went well in the preparation and implementation of the approach and to draw conclusions about what can be improved in future approaches.

However, since the communication aspect will normally follow an integrated approach in CRVA, which in turn is integrated into a broader project context, we recommend a systematic way of reflecting upon the success of the strategy. To this end, the Working Party on Aid Evaluation (WP-EV) of OECD's Development Assistance Committee (OECD-DAC) suggests five criteria for evaluating results (OECD, 2010):

- Relevance: "The extent to which the objectives of a development intervention are consistent with beneficiaries' requirements, country needs, global priorities and partners' and donors' policies" (ibid:32).
- Efficiency: "A measure of how economically resources/inputs (funds, expertise, time, etc.) are converted to results" (ibid.:21).
- Effectiveness: "The extent to which the development intervention's objectives were achieved, or are expected to be achieved, taking into account their relative importance" (ibid:20).
- Impacts: "Positive and negative, primary and secondary longterm effects produced by a development intervention, directly or indirectly, intended or unintended" (ibid:24).
- Sustainability: "The continuation of benefits

from a development intervention after major development assistance has been completed" (ibid:36).

We recommend concluding the communication approach with a follow-up session (or as concluding part of the last session of the exchange) and conducting a joint evaluation with the target audience, in which the following set of key questions should be answered:

- a. <u>Relevance of the approach</u>: According to the perception of CRVA participants, was the information required by data users and/or the target group to better understand the outcomes of the CRVA? Was the communication approach in line with the country's climate risk-related policies and strategies? Was it relevant for the success of the CRVA itself?
- a. <u>Efficiency of the approach</u>: According to the perception of participants, what worked well in the implementation of the communication approach? Was the approach sufficiently participatory? Was the approach sufficiently supported by relevant stakeholders? Were the methodology and tools appropriate? Was the approach satisfactory in considering gender aspects and the interests of vulnerable groups? Was the timeframe adequate to address all relevant aspects of the climate risk and vulnerability assessment? Have all demands and questions been adequately addressed and answered?
- a. <u>Effectiveness</u>: Has the purpose been achieved? Has knowledge of participants been adequately considered in the discussions and results? Has information provided contributed to increased knowledge of the participants? How have knowledge levels of participants about climate risks changed, based on information provided and discussed?
- a. <u>Impacts</u>: Based on the information provided about the results of the climate risk and vulnerability assessment, do participants feel able to take informed decisions about planning and putting into place adaptive action? If yes, how?
- a. <u>Sustainability</u>: Will results and impacts of the communication approach continue to be reflected upon, and be included into ongoing decision-making processes and future adaptive action?

In summary, it is vital to evaluate the communication approach to assess its success and impacts and, therefore, to contribute to a broader knowledge management and experience building on climate risk communication.

As we have seen, communicating climate risks remains a complex issue, but it is crucial for nurturing the use and application of the CRVA results for adaptation purposes. In the future it will be important to bring together more information about the success and results of climate risk-related communication approaches and this guideline provides a first basis for it.



Chapter 5: Annexes

Communicating the degree of confidence in CRVA findings: A participatory step-by-step approach Further information and resources on conducting climate risk & vulnerability assessments

Chapter 5: Annexes

5.1 Communicating the degree of confidence in CRVA findings: A participatory

step-by-step approach

When communicating results of climate-related assessment findings to users of climate services and information, clearly communicating the degree of confidence in these remains a challenge. The understanding of the sources of uncertainty affecting future climate change projections has not substantially changed since the fourth assessment report (AR4) of the Intergovernmental Panel on Climate Change (IPCC), but many experiments and studies since then have proceeded to explore and characterize those uncertainties further. A full characterization, qualitative and even more so quantitative, involves much more than a measure of the range of model outcomes, because additional sources of information (e. g., observational constraints, model evaluation, expert judgement) lead us to expect that the uncertainty around the future climate state does not coincide straightforwardly with those ranges (Collins et al., 2013:1035f.).

Describing the degree of confidence can play a relevant role when delivering information for decisionmaking. While uncertainty can almost never be completely excluded, the level of uncertainty on certain information can help to either assess the level of urgency for action, or for further research.

One approach to determine the certainty are statistical methods and models, which follow a probabilistic approach. This is often the approach preferred by decision-makers, as it delivers a straightforward means to assess the topic.

However, this type of information is not always available, or only reveals parts of the picture. When this is the case, describing clearly potential future changes - e. g., by using both quantitative and qualitative scenarios - can be used to provide insights on what to expect. Decisions can then be taken based on that information.

The IPCC developed in its fifth assessment report (AR5) a common approach to evaluate and communicate the degree of certainty in a clear forward way. For this, they rely on two qualitative metrics to communicate the degree of certainty in their findings:

- The agreement of the used sources on the outcome: the more sources agree on an outcome or trend, the higher the agreement is. The agreement can usually be determined via data analysis.
- Confidence in the sources used to come to a finding, based on the consistency, quality, amount, and type of used sources. The confidence can be assessed via model results and/or statistical analysis, or expert judgement. Generally, evidence is most robust when there are multiple, consistent, and independent sources of evidence with a high quality.

Each finding for both metrics can be placed on a qualitative or quantitative scale. The higher the agreement and evidence are, the higher the confidence in findings will be (see also figure 4).

Â	High agreement Limited evidence	High agreement Medium evidence	High agreement Robust evidence	
Agreement	Medium agreement Limited evidence	Medium agreement Medium evidence	Medium agreement Robust evidence	
A	Low agreement Limited evidence	Low agreement Medium evidence	Low agreement Robust evidence	Confidence
				scale

Evidence (type, amount, quality, consistency) =>

Figure 5: A depiction of evidence and agreement statements and their relationship to confidence (adapted from Mastrandrea et al., 2010:3).

The following stepwise approach (adapted from Becher, Schlönvoigt, Baumert, Lotzen & Borges (2019)) allows practitioners to determine both the evidence and agreement level of their findings in a participatory way with (different groups of) users of climate services and information.

• Step 1: Identify the sources of information

The first step is to collect all sources of information to be evaluated for climate risk and vulnerability assessment. These can be climate data, workshop results, interviews, articles, or other sources. Sources according to the types of information they are referring to may be categorized (e. g. climate signals for different climate parameter, root causes for vulnerability, exposure). While performing this exercise category by category, a level of "high" or "low" confidence should be attributed to each of the sources.

• Step 2: Determine the level of robustness of information sources

In a second step, a matrix should be discussed and filled – jointly with the group of information users, as far as possible - pursuing to determine how robust sources of information are, regarding their levels of evidence (see Figure 5, results are for illustration purposes only):

- Information about the category addressed: As some sources can deliver information for different categories (e. g., a newspaper article could deliver information on precipitation and vulnerability of the local population), they may be used for multiple categories.
- Type of data: describe what type of data or information the source is delivering, which contributes to the findings for this category.
- Source of the data: briefly describe the source of your data. As some sources are more reliable than others, this is already an indicator of confidence.
- Quality of the data: assess qualitatively or quantitatively the quality of the data that individual sources deliver. To do so, answer to questions like "Has the information been generated following the state of the art?"; "Is the information well applicable for the region in question?"; "Is there any information missing?"; "Did instruments used for data recording follow technical standards?"; and "Is meta data provided"?
- Consistency of the data: describe if the data and information presented by this source is consistent, both regarding the number of sources, and the methodology used.
- Level of robustness: for each source, assess the level of robustness of available data and information, using the assessment performed before. The level of robustness can be described qualitatively, or in a scale (for this example, we use a scale from 1 (not robust at all) to 7 (extremely robust)).

Information category	Type of data	Source of the data	Quality of the data	Consistency of the data	Level of robustness
Annual precipitation	Historical weather data	National Meteorological Institute	Good quality, 53 years of data with no gaps, measuring 4 times per day	Good consistency, no change in location on measuring equipment	7 (extremely robust)
	Global Climate Models: HadGEM2, MIROC, and CanCM4, for RCP 4.5	Met Office UK	Good quality, although only in grids of 150x150 Km	Good consistency, but only three models and one scenario	5 (robust)

Figure 6: Matrix to define the robustness of climate data and sources (adapted from Becher, Schlönvoigt, Baumert, Lotzen & Borges, 2019).

• Step 3: Determine the level of confidence

The following matrix allows to assess the level of confidence in the findings. The matrix can be filled again category by category, to allow for comparison:

- 1. Place all sources of data assessed in the matrix before on a column for itself. Transfer also the level of robustness identified before.
- 2. For each category of data assess what kind of trend it delivers for your system of interest, as shown in the matrix below. The trend refers to the type of information which is relevant to the category. e. g., categories related to climate signals could show trends towards higher or lower temperatures, while categories targeting sensitivity could show trends towards higher or lower sensitivity. Use "+1" for a trend to increase, "-1" for a trend to decrease, and "0" for no trend of change for the assessed parameter. Include a written description to justify your choice.

Climate trends and Climate outcomes: The reason of focusing on trends rather than final outcomes has to do with the fact that climate-related information rarely shows 100 % concordance, what can be the result of using different climate models or scenarios or gathering different type of data. For this reason, focusing on trends is at least an indicator for tendencies in agreement.

- 3. Sum up the weighted number for each source within each category, counting increasing trends as positive, and decreasing trends as negative. When there is no trend or there is uncertainty about the trend, this is not counted.
- 4. Sum up all calculated figures for each category.
- 5. Finally, compare final scores for each category. The higher the score (both negatively and positively), the stronger the confidence towards the shown trend can be considered.
- 6. When comparing the different categories, the confidence as the result of analyzing both the evidence and agreement in trend of the findings on different categories can be assessed. The confidence can be described either qualitatively, or on a scale (e. g. 1 (not confident regarding the findings for this category) to 7 (extremely confident regarding the findings for this category).

Information category	Historical weather data (7)	Global Climate Models, HadGEM2, for RCP 4.5 (4)	Review of local newspapers (3)	Literature review (6)	confidence (final score)
"Annual precipitation"	+1 (an average of +0,2 mm/year) (+1)*7 = +7	0 (no perceived change) 0*4 = 0	-1 (perceived reduction of precipitation in the last years) $(-1)^*3 = -3$	+1 (an average of 0,3 mm/year until 2050) (+1)*6 = +6	7+0-3+6 = 10 Confidence in the trend: 5
"Exposure of critical infrastructure to extreme emperatures"					+18 Confidence in the trend: 6

Figure 7: Matrix to define the level of confidence in trends for different hazard-related categories (adapted from Becher, Schlönvoigt, Baumert, Lotzen & Borges, 2019).

The outcome of this exercise can be communicated in very different ways, depending on the goal of the communication, the target audience, but also on the resources available for this (see also chapter 4.).

5.2 Further information and resources on conducting climate risk &

vulnerability assessments

GIZ Vulnerability Sourcebook

The GIZ Vulnerability Sourcebook, published in 2014, offers a concept and guidelines for standardized vulnerability assessments, based on the fourth assessment report (AR4) of the IPCC. The Vulnerability Sourcebook is written for users with a basic understanding of the concept of vulnerability and methods for dealing with it. The Vulnerability Sourcebook is particularly concerned with providing readily understandable, user-friendly guidance in the development and implementation of vulnerability assessments. It acknowledges the specific conditions which prevail in developing countries – requirements as well as constraints. The Vulnerability Sourcebook is particularly helpful in cases which require a consistent approach to information gathering on climate change vulnerability, and the further use of this information for adaptation and development planning. The Vulnerability Sourcebook can be applied at different stages of adaptation planning from high-level identification of key vulnerabilities to more in-depth analysis of particular vulnerabilities, as well as the development of concrete adaptation measures or strategies and monitoring and evaluation of adaptation interventions. Its applicability to a wide range of topics means the Vulnerability Sourcebook is not limited to one sector or spatial level but can be used in various contexts.

The GIZ Vulnerability Sourcebook can be accessed online here: <u>https://www.adaptationcommunity.net/</u> <u>download/va/vulnerability-guides-manuals-reports/vuln_source_2017_EN.pdf</u>

GIZ Risk Supplement to the Vulnerability Sourcebook

The GIZ Risk Supplement to the Vulnerability Sourcebook, published in 2017, introduces the Fifth IPCC Assessment Report (AR5) risk concept and provides guidelines on how to conduct risk assessments using the Vulnerability Sourcebook`s approach. While the Vulnerability Sourcebook provides step-by-step guidelines to conduct robust vulnerability assessments according to the IPCC concept of vulnerability, AR5 moves from focusing on vulnerability to focusing on risk of climate-related impacts that may harm a system. To account for this change, this Risk Supplement has been developed.

The GIZ Risk Supplement to the Vulnerability Sourcebook can be accessed online here: <u>https://www.adaptationcommunity.net/wp-content/uploads/2017/10/GIZ-2017_Risk-Supplement-to-the-Vulnerability-Sourcebook.pdf</u>

GIZ Climate Risk Assessment for Ecosystem-based Adaptation

The GIZ Climate Risk manual for Assessment for Ecosystem-based Adaptation, published in 2018, was commissioned by the Global Project 'Mainstreaming EbA – Strengthening Ecosystem-based Adaptation in Planning and Decision-Making Processes on behalf of the Federal Ministry for Environment, Nature Conservation and Nuclear Safety (BMU) under its International Climate Initiative (IKI). The Guidebook provides guidance on how to systematically consider ecosystem-based solutions in the context of climate risk assessments. It demonstrates how to identify potential adaptation measures, perform related (spatial) planning, and utilise the risk assessment for monitoring and evaluation (M&E) after actions have been implemented.

The GIZ Climate Risk manual for Assessment for Ecosystem-based Adaptation can be accessed online here: <u>https://www.adaptationcommunity.net/wp-content/uploads/2018/06/giz-eurac-unu-2018-en-guidebook-climate-risk-asessment-eba.pdf</u>

GIZ Guidance note for planning, contracting and effective backstopping of a Climate Risk and Vulnerability Assessment (CRVA)

The aim of this guidance note, published in 2019, is to support GIZ staff in planning, tendering and backstopping a Climate Risk and Vulnerability Assessment (CRVA). Recommendation, tips and tricks

given in the guidance are mainly referring to the approach for a CRVA presented by the GIZ Vulnerability Sourcebook, its Risk Supplement and the Guidebook on Climate Risk Assessment for Ecosystem-based Adaptation (EbA).

CRA-Method Search Engine "CRAMSE"

The CRA-Method Search Engine "CRAMSE", launched in 2021, aims to support practitioners in identifying methods that fit best for their specific interests. It was developed by the BMZ commissioned GIZ "Global Programme of Risk Assessment and Management for Adaptation to Climate Change (Loss and Damage)" and builds on a database encompassing more than 120 CRA methods. A wide range of filters, including hazards considered, economic sectors covered or the inclusion of non-economic Loss and Damage (NELD) can be applied.

The CRA-Method Search Engine "CRAMSE" can be accessed online here: <u>https://cramse.</u> <u>adaptationcommunity.net/</u>

GIZ guidance on Tailor made training courses on climate change adaptation

Titled as "cookbook", GIZ publication on tailor made training courses on climate change adaptation, launched in 2014, aims at different formats and target groups. The guidance was developed by the Inventory of Methods for Adaptation to Climate Change (IMACC) project. The methodology described in the publication is based on an OECD Policy Guidance, Integrating Climate Change Adaptation into Development Cooperation, published in 2009. Its modular structure enables it to be customised to a multiplicity of training conditions and expectations. The guidance includes a presentation on how to methodologically prepare practitioner trainings with a focus on climate information.

The GIZ guidance on Tailor made training courses on climate change adaptation can be accessed online here: <u>https://www.adaptationcommunity.net/download/cca_training/giz-2013_Tailor_made_training_courses_on_CCA_-_A_Cookbook.pdf</u>

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