European Food Safety Authority

Engagement Toolkit

Methods, tips and best practices to design effective participatory processes

Prepared by EFSA based on desk research undertaken by Prospex and iCONs (outsourced activity)

Last updated: March 2021

European Food Safety Authority
Via Carlo Magno 1A – 43126 Parma, Italy
Tel. +39 0521 036 111 | www.efsa.europa.eu

Table of contents

The toolkit's scope and objectives

Participatory processes are widely used in all domains to increase the transparency and legitimacy of policies. This happens worldwide and at all levels.

The regulatory framework is not an exception. EFSA operates at the interface between policy makers and society and plays a pivotal role in ensuring the trustworthiness of the whole system. Not by coincidence, the 'Transparency Regulation'[1] emphasizes public engagement as 'the' method to build and maintain trust in the risk assessment process underpinning EFSA's scientific production.

Whether it is about involving civil society, stakeholders or partners, all want to make their voice heard, valued and reflected into trackable actions or deliberations. Being trustworthy requires taking this demand into consideration, irrespective of the audience addressed, and believing in it as an opportunity to establish a win-win relation while sharing visions, knowledge, expertise and outcomes.

Diversity is strength in engagement. It brings quality and quantity of ideas, but also credibility and legitimacy. This requires opening internal processes to embrace inputs coming from outside.

This document provides tips and resources to inspire the choice of the best solutions to design effective participatory processes. It was prepared under EFSA's 'Relationship Management Project'[2] to be used by EFSA in enhancing its engagement efforts in line with the provisions of the Transparency Regulation'.

At the same time, the document provides information as per point 5a of the EC request to EFSA for provision of technical assistance in the field of risk communication (ref. EFSA-Q-2020-00213) as follows: 'Carry out a comprehensive mapping of all different types and levels of engagement activities and the appropriate tools and channels depending on the different target audiences; this mapping should provide an overview of advantages/disadvantages of the different tools and channels taking into account the relevant risk factors and include 'best practices' based on literature review and input from existing research, where relevant'.

The document is structured as follows:

- An **introductory section** with a glossary providing definitions to clarify the terminology used in the toolkit and general recommendations for an effective implementation of the engagement methods presented in the Annexes.
- An **outline of EFSA's engagement framework** to put things in context.
- An **inventory of 50+ online and offline methods** stemming from desk research and capturing the main trends in participatory processes. The inventory is complemented by an Excel version to quickly filter the methods according to multiple criteria (Annex I).

[1] Regulation (EU) 2019/1381 of the European Parliament and of the Council of 20 June 2019 on the transparency and sustainability of the EU risk assessment in the food chain and amending Regulations (EC) No 178/2002, (EC) No 1829/2003, (EC) No 1831/2003, (EC) No 2065/2003, (EC) No 1935/2004, (EC) No 1331/2008, (EC) No 1107/2009, (EU) 2015/2283 and Directive 2001/18/EC (OJ L 231, 6.9.2019, p. 1), to be found at: https://eur-lex.euiODa.eu/legalcontent/EN/TXT/PPF/?urUCELEX:32019RI381&from=EN

[2] An internal EFSA project set up to manage organisational changes required to implement new provisions of Regulation (EU) 2019/1381. For more information: https://www.efsa.europa.eu/en/stakeholders/transparency-regulation-implementation

- A description of **40+ best practices** from EU and international organisations, providing examples of how some methods of the inventory are successfully implemented in different domains worldwide.
- A repository of **target audience identification methodologies** to increase outreach beyond the existing audiences.

In conclusion, this document is a **toolkit** to design participatory processes to engage with third parties (be them partners or stakeholders) in a mutually rewarding way. For target audiences - to follow closely EFSA's work and give their input; for EFSA - to support the quality and legitimacy of our scientific outputs; for all - to build a trustworthy and transparent relationship based on an open and fruitful dialogue.

While this document was prepared by EFSA, considering its own engagement model, it provides a catalogue of methods and tools for a broader community of practitioners operating at the interface between policy and society, which can apply the listed methods when engaging in an open dialogue with interested parties.

Introductory section

Glossary

This toolkit relies on the use of a precise terminology. The following definitions are provided, being essential to establish a common vocabulary and ensure the understanding of the key concepts presented in this guide to avoid misinterpretations.

Term	Definition	Examples
Method	An activity aimed to engage an audience to meet a specific objective. Possible synonyms: model, mechanism, format	Event, public consultation
Tool	A functional instrument to execute a method	Software used to gather opinions during a workshop (polling)
Engagement window	An opportunity to carry out a stakeholder engagement method within a specific step of the EFSA risk assessment process	See The 'Quality of science' stream
Engagement stream	A specific domain of EFSA's engagement framework, with own audiences, methods and underpinning processes	See EFSA's engagement model

Recommendations for an effective engagement process

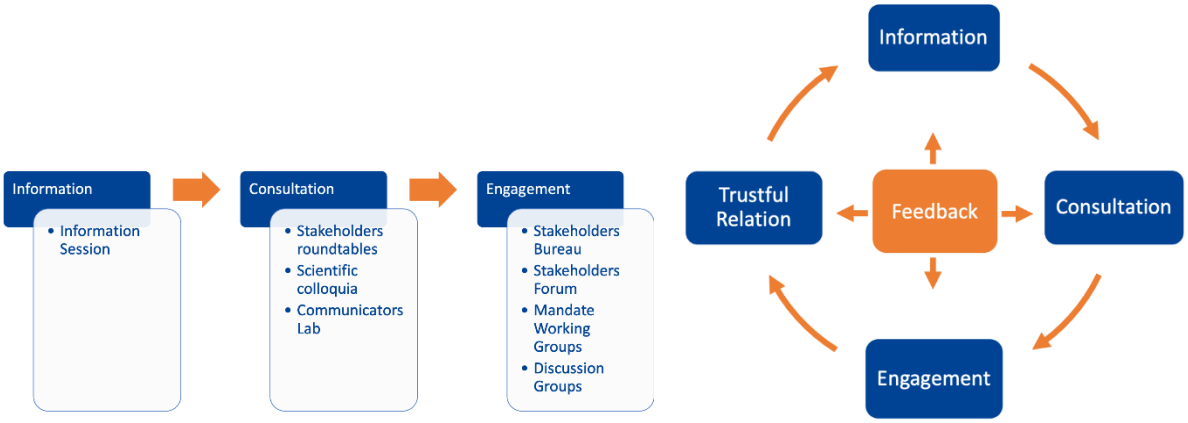
Consider engagement as a continuous and circular process

Irrespective of the domain in which it occurs, engagement is a process that does not end with the conclusion of a single activity.

It is a circular process that grows out mutual exchanges, insights, feedback and frequency of interactions. It is subject to and influenced by boundary conditions related to the place where it is carried out (e.g. social, political and economic conditions; technology and language) and it evolves over time.

EFSA's Stakeholder Engagement Approach (SEA) aims to involve registered stakeholders through a combination of permanent and targeted mechanisms serving different purposes (Information, Consultation, Engagement). The approach is outlined and implemented as a linear approach, while embedding circularity may better reflect the main objective of any engagement activities: achieving greater value together, while building a trustful relation.

The following figure illustrates the benefits brought by conceiving engagement as a continuous and circular process, growing in output quality while incorporating feedback.

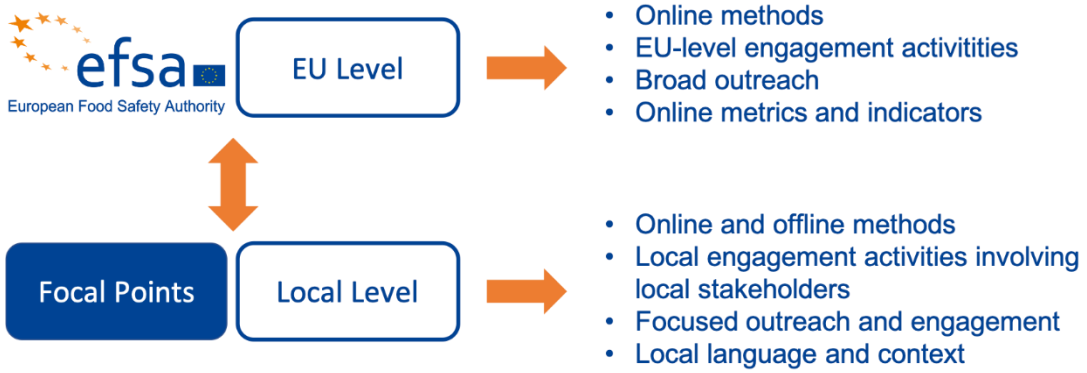


Adopt a multi-level approach (EU and Local)

The adoption of a multi-level approach (EU and Local) is beneficial to raise awareness, encourage participation, incorporate feedback, build a solid relation with stakeholders and, ultimately, build trust in EFSA's work.

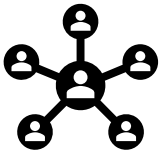
EFSA's Focal Points, for example, can play the role of local multipliers and interface of EFSA towards local audiences while implementing local engagement activities, establishing a tight connection between EFSA's work and the local context. The implementation of a multi-level approach will allow EFSA to reach both a wide audience and to narrow down the purpose of local engagement activities, thus increasing outreach and participation as well as building and nurturing communities of local experts.

The following figure outlines the multi-level approach just described.



Some general principles to bear in mind

The following key principles must be kept in mind when planning any engagement method.

Category	Description
 **Organisational and managerial principles**	▪ **Plan carefully**. What is the scope of your mandate and what will it change or achieve? How and when should stakeholders be involved? How are opinions received, treated and processed? Is feedback given regularly and transparently? How will data, inputs and opinions be managed? Experts may have to overcome several barriers to bring value to the process. Make it easy for them to navigate with clear signposts and robust processes. ▪ **Be prepared to inject resources in the process**. Building a dynamic community requires energy. Shortcuts are few; successful engagement requires resources, determination and managerial support. ▪ **Ensure you have internal buy-in**. Is there a consensus and understanding of the long-term benefits of engaging with stakeholders throughout the risk assessment process? Make sure everyone is on-board.
 **Communication principles**	▪ **Mix tools, methods and messages**. One size does not fit all. Decide how you want to engage. Cross-reference with your goals before deciding on a mix of methods to achieve your objectives. An online method with rich content and proactive facilitation may help outreach, but the more vocal and interested members of the community may provide input more effectively in a participatory workshop. Consider expectations and differences when you plan your activities. ▪ **Plan promotion**: ensure timely access to information is key to ensure that stakeholders can plan their participation. Make them aware of the opportunities well in advance and let them know how they can contribute. ▪ **Use established, recognized and trusted channels before attempting to set up your own**. For instance, if your objective is to engage with experts, leverage the channels they are already familiar with. ▪ **Consider any barriers** that might exist in the community when planning your communication activities. These could be linguistic or functional. ▪ **Content is the King, Linking is the Queen.** Content alone does not guarantee success, especially if you are reaching out to a new audience. Consider teaming up with other institutions targeting the same stakeholders you are interested in to broaden your outreach.
 **Relational principles**	▪ **Put yourself in their shoes.** Compromise, consensus and common ground play and important role in engagement. Cultivate a deeper understanding and appreciation of other perspectives. Methods like simulation games and role-playing can build mutual understanding for complementary action. ▪ **Ensure transparency and regular feedback** on how stakeholder input has been considered in a process. ▪ **Evaluate participation** with statistics, feedback forms, exit interviews or surveys. Ensure a range of participant profiles complete to get a range of opinions on the impact of the engagement method implemented and

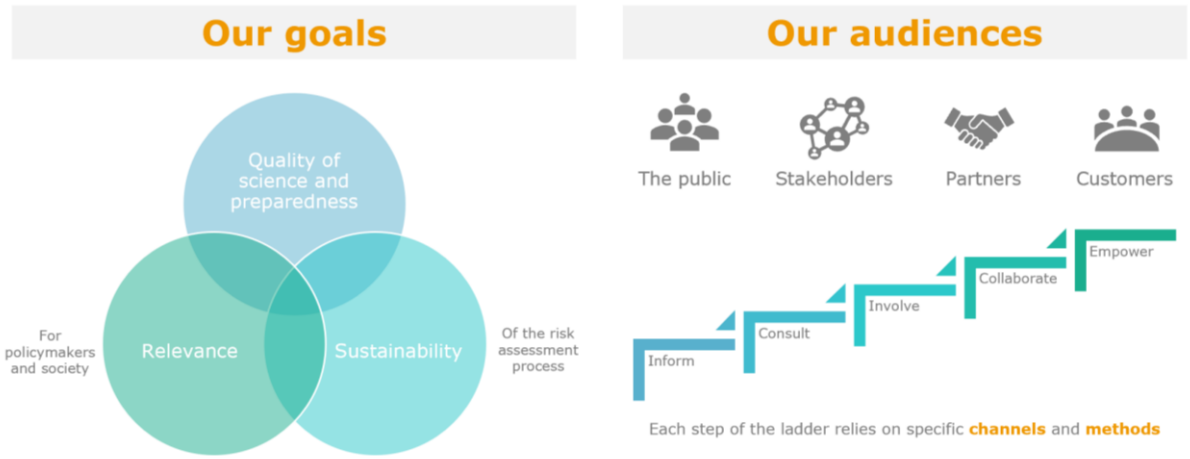
Category	Description
	its appropriateness to achieve results and outcomes. Be prepared to change your plans if something turns out to be ineffective.
 **Mutual benefit principles**	▪ **Co-design is a way to jointly produce a mutually valued outcome**. It is a fundamental change to the historical 'producer and consumer' relationship between, for instance, farmers and citizens. Co-design can also be considered in the terms of an emerging Quintuple Helix - the active flow of information and ideas among five sectors of society (government, academia, business, non-profit organisations and citizens) – to tackle the ongoing systemic change in society. ▪ **What's in it for me?** Quality information, benefits, reputation, recognition, reward – or just the pleasure of sharing knowledge or getting something done. These are just some of the reasons why someone would engage, stay motivated to do so, and encourage others to do the same. Tap into the aspirations and interests of your audience as well as your practical constraints to be effective.

EFSA's engagement model

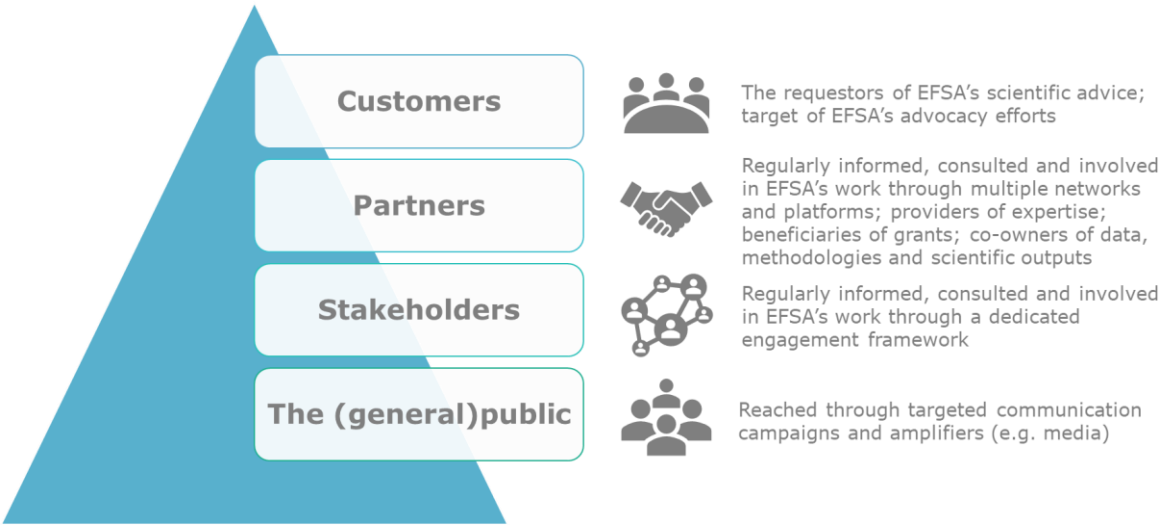
Why does EFSA engage, and with whom?

To deliver its mandate, EFSA cannot work in isolation. EFSA regularly engages with third parties for essentially three reasons:

- to ensure **preparedness** and to support the **quality** of its scientific production;
- to ensure **relevance** for both policymakers and society;
- to foster the **sustainability** of the risk assessment process through the involvement of partners, becoming co-owners of its result.



EFSA belongs to a complex ecosystem of entities having in common a strong interest in food safety. However, their degree of engagement with EFSA and the nature of the interactions in place differ significantly from one audience group to the other. The same is true for the channels and methods used to manage this relation.



The main focus of the toolkit is on **stakeholders** and **partners**, but the same methods may be considered to engage with the general public and customers as well.

Three streams, one framework

EFSA's engagement approach is an organic framework based on three streams of activities, as outlined in the figure below:

Each stream has its own peculiarities and objectives. The three streams are underpinned by different processes, but they are orchestrated by a common governance ensuring that they work coherently for the achievement of an overarching goal: enhancing the openness, transparency, inclusiveness and trustworthiness of EFSA's operations by ensuring a fruitful dialogue with third parties.

The streams require fit-for-purpose and effective engagement methods. This toolkit provides insights on the most suitable models for each of the above domains.

The 'Preparedness' stream

EFSA operates at the interface between science, policy and society. Each domain is evolving rapidly and imposes standing measures for EFSA to anticipate future scientific trends or challenges, deploy effective social listening approaches and continue delivering up to the expectations of policy makers and consumers. In one word, to stay relevant.

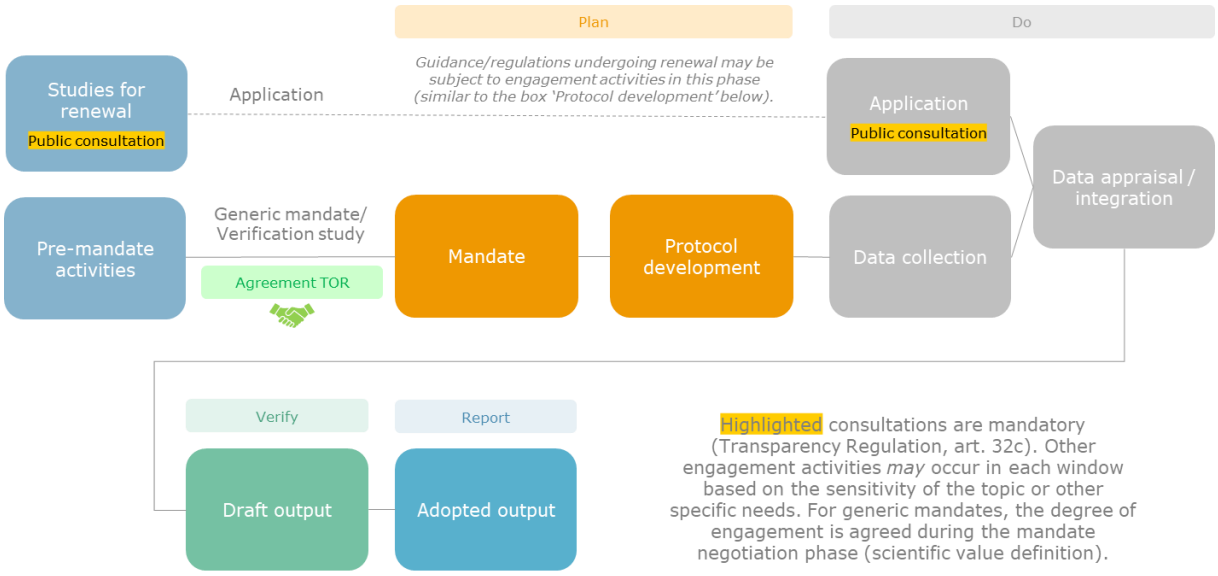
Relevance, however, can only be achieved by being open to inputs from outside. The 'Preparedness' stream relates to the involvement of third parties in EFSA's forward-looking reflections to detect and characterize new issues brought, for example, by new food/feed production technologies, by emerging societal concerns and expectations, or by the evolving regulatory framework.

This toolkit suggests a series of online and offline methods to support this process.

The 'Quality of science' stream

This stream is related to the engagement activities rolled out during the lifecycle of a generic mandate or an application. The nature of interactions in this domain is mandate-related and topic-based; third party input is functional to ensuring access to relevant data, promoting the understanding of EFSA's work in that domain and enhancing the transparency of the risk assessment process leading to a scientific output.

During the lifecycle of an application or a generic mandate, there are specific windows for public engagement to occur. The figure below outlines the different engagement windows in the lifecycle of an application (upper stream) or a generic mandate (lower stream).



This toolkit classifies the methods according to the windows in which they may be deployed (Pre-mandate, Plan, Do, Verify, Report).

The 'Stakeholder dialogue' stream

EFSA's Stakeholder Engagement Approach (SEA) identifies the following permanent mechanisms to engage registered stakeholders on a regular basis:

- The Stakeholder Bureau and the Annual Stakeholder Forum
- The Roundtables with NGO's and industry organisations

This toolkit suggests several methods to complement the mechanisms in place to engage stakeholders in this domain and ensure more agile and effective interactions.

The inventory of engagement methods

Objectives

The methods described in the Annexes aim to achieve the following common objectives:

Broadening pool of experts and stakeholders

Expansion of expertise is vital to bring in the necessary knowledge and get fresh insights around specific matters while raising awareness about EFSA's role with not-yet-engaged audiences.

Introduce new and/or more agile engagement formats

The inventory includes a series of online methods complementing the existing engagement models of the SEA with new online and offline formats to ensure more focused, agile and sustainable interactions.

Enhance the quality of scientific outputs through engagement

Engagement is key to support the quality of scientific outputs by leveraging the expertise and data available outside EFSA. Beside the methods already in use at EFSA – e.g. calls for data, public consultations and crowdsourcing – the inventory proposes additional models to collect external input or data during the lifecycle of a mandate or an application.

Enhance the transparency of the risk assessment process

The aim of the Transparency Regulation is to foster the openness and transparency of EU risk assessment by introducing specific measures to ensure a high degree of public scrutiny in all steps of this process. The inventory reinforces the portfolio of EFSA's engagement models with new methods to help achieve the transparency objective more effectively.

Structure

Each method in the inventory is described in an individual table based on the dimensions below to help you identify the best match between your needs and the right engagement models to fulfil them:

Table section	Table fields and description
General outline	**Method**: name of the specific method.
	Short description: providing a short description of the method.
	Objective: goals that can be met by implementing the method.
	Target: target addressed.
	Geographical scope: whether the method is suitable for EU and/or Local engagement.
	Online/Offline: whether the method is suitable for online and/or offline execution.

Table section	Table fields and description
	Impact: expected impact of the methods implementation (Inform, Consult, Involve).
	Engagement stream: whether the method is suitable to be implemented in the 'Preparedness' and/or 'Quality of science' and/or 'Stakeholder dialogue' streams.
	Engagement window: in case the method is suitable for the 'Quality of science' stream, this fields suggests the appropriate engagement Window to which the method may be applied.
Implementation	**Detailed description**: provision of a detailed description for the method's implementation steps and process.
	Benefits: listing the benefits achievable through the method.
	Risks: listing possible risks to be faced during its implementation.
	Required tools: listing the functional tools supporting the method's execution.
	Timeframe: providing a tentative timeframe needed for implementation.
	Required skills/resources: listing the skills needed for its implementation.
	Useful links: references to external sources describing the method.
	Examples of implementation: how others have used the method.

How to identify the right method(s)

Purpose-based selection

Engagement must be linked to a predefined purpose. The table below groups all methods based on the goal they help achieve, no matter the context or engagement stream in which they may be applied. Some methods may be suitable for more than one purpose.

The icon 👤 marks the offline methods; the icon 📶 indicates the online models. If both icons appear, the method can be implemented in both environments.

Purpose	Methods	
 **Generate new ideas**	Brainstorming 👤	Open space 👤
	Challenge prize 📶	Participatory workshop 👤
	Concept mapping 👤📶	Pestel analysis 👤📶
	Consensus conference 👤	Stakeholder forum 👤📶
	Design thinking, project in a day 👤	TOP 100 list 👤
	Discussion forum 📶	TOPSY TURVY 👤
	Envisioning the future 👤	Vision factory 👤
	Innovation jam 📶	
 **Learn from and consult experts and stakeholders**	Communicators Lab 📶	Online survey 📶
	Delphi method 👤	Peer assist 👤📶
	Discussion forum 📶	Public consultation 📶
	Discussion group 👤📶	Q-methodology stakeholder selection 👤
	Expert Interview with audience 👤	Reflexive interactive design 👤
	Expert knowledge elicitation 📶	Roundtable with NGOs and industry stakeholders 👤📶
	Focus group 👤	Scientific colloquium 👤📶
	Interview 👤📶	Scoping study 👤📶
	Knowledge fair 👤	User committee 👤
	Nominal group technique	Webinar 📶
	Online platform 📶	

Purpose	Methods	
 **Gather Data**	Call for data	Interview
	Crowdsourcing	Online platform
	Gamification	Online survey
	Expert knowledge elicitation	Participatory sensing
 **Inform**	Academic social networking sites	Online platform
	Gamification	Participation at stakeholders' events
	Information session	Science café
	Knowledge fair	Science week
 **Learn and share lessons within groups**	Academic social networking sites	Nominal group technique
	After Action Review	Online platform
	Communities of practice	Open space
	Discussion forum	Participatory modelling
	Focus group	Participatory workshops
	Knowledge fair	Science shop
 **Co-design**	Community based participatory research	Participatory workshop
	Crowdsourcing	Science shop
	Design thinking, project in a day	Reflexive interactive design
	Group interview with a co-design session	Roundtable with NGOs and industry stakeholders
	Participatory design	Vision factory
	Participatory modelling	

Stream-based selection

The following tables group the methods by engagement stream for a quick selection in case the context in which engagement will occur is already defined.

The icon marks the offline methods; the icon indicates the online models. If both icons appear, the method can be implemented in both environments.

Recommended methods for the 'Preparedness' stream

Online platform	Focus group	After Action Review
Discussion forum	Challenge prize	Brainstorming
Crowdsourcing	Science week	Most significant change
Innovation jam	Interview	Nominal group technique
Science café	Open space	Online survey
Academic social networking sites	Stakeholder working group	Expert Interview with audience
Gamification	Q-methodology stakeholder selection	Communicators Lab
Participatory workshop	Participatory design	Expert knowledge elicitation
Knowledge fair	Participatory modelling	Discussion group
Vision factory	User committee	Mandate working group
Scientific colloquium	Scientific conference	Delphi method
Concept mapping	Visit of delegations	Participatory sensing
Design thinking, project in a day	Consensus conference	SWOT analysis
Pestel analysis	Envisioning the future	TOPSY TURVY
Top 100 list	Science shop	

Recommended methods for the 'Quality of science' stream

Window	Methods	
Pre-Mandate	Ad-hoc meetings with NGOs	Participatory design
	Brainstorming	Participatory modelling
	Challenge prize	Participatory workshop
	Community based participatory research	Peer assist
	Community of practice	Pestel analysis
	Concept mapping	Public consultation

Window	Methods	
	Discussion forum	Q-methodology stakeholder selection
	Delphi method	Reflexive interactive design
	Expert knowledge elicitation	Scoping study
	Group interview with a co-design session	Participatory workshop
	Interview	Roundtables with NGOs and industry stakeholders
	Nominal group technique	Stakeholder working group
	Online platform	SWOT analysis
	Online survey	User committee
Risk assessment process ('Plan', 'Do', 'Verify' windows)	Ad-hoc meetings with NGOs	Online survey
	Call for data	Participatory workshop
	Community based participatory research	Participatory design
	Crowdsourcing	Participatory sensing
	Discussion forum	Peer assist
	Discussion group	Public consultation
	Expert knowledge elicitation	Roundtables with NGOs and industry stakeholders
	Focus group	Stakeholder working group
	Gamification	Technical meeting
	Interview	User committee
	Online platform	
Communication / Dissemination ('Report' window)	Academic social networking sites	Online platform
	After Action Review	Participation to stakeholders' events
	Gamification	Science café
	Information session	Webinar
	Most significant change	

Recommended methods for the 'Stakeholder dialogue' stream

Stakeholder bureau	Stakeholder forum	Roundtables with NGOs and industry stakeholders
Participatory workshop	Online survey	Brainstorming
Online platform	Participatory design	Gamestorming
Focus group	Group interview with co-design session	

Annexes

ANNEX I - Engagement methods A to Z

Academic social networking sites

General outline	
Method	Academic social networking sites
Short description	Academic Social Networking Sites (ASNSs) offer new ways to communicate, collaborate and gather knowledge. ASNSs bring researchers and researches at one place. Flexibility in exchange of ideas and open discussions lead to free flow of information.
Objective	• Connect researchers and make it easy for them to share and access scientific output, knowledge and expertise. • Disseminate results. • Promote events or workshops.
Target	Researchers, experts, academia
Geographical scope	Global
Online/offline	Online
Impacts	Inform, Involve
Engagement stream(s)	'Preparedness', 'Quality of science'
Engagement window ('Quality of science' stream only)	Report
Implementation	
Detailed description	Social networking is about linking people and organizations around similar interests via internet-based tools. Most social networking sites involve creating a user profile, inviting contacts and "friends" to your personal network, creating short updates or blog posts, having discussions and sharing resources. Established social networking sites, such as Facebook and LinkedIn allow for the creation of groups. You can also create a subject-specific or group-specific network using Ning. Access to an enlarged network of people makes social networking a valuable advocacy and communication strategy. It is also a great way to enable colleagues who work in different offices and in different time zones to easily share knowledge and experiences.
Benefits	Potential to reach a very broad audience.
Risks	When posting on a social network you are publicly exposed to potential critics (also from non-experts).

Required tools	**ResearchGate** is a European social networking site for scientists and researchers to share papers, ask and answer questions, and find collaborators. **LinkedIn** allows members (both workers and employers) to create profiles and "connections" to each other in an online social network which may represent real-world professional relationships. **Yammer** is a freemium enterprise social networking service used for private communication within organizations. Access to a Yammer network is determined by a user's Internet domain so that only individuals with approved email addresses may join their respective networks. **Ning** is an online service that allows users to create their own social networks or online communities of practice, providing a more "focused environment" in which to network, validate and build on existing knowledge and good practices. Many online communities have been set up for professional or interest groups where members can network with one another in a more private space. They often have full social networking functionality such as profiling, message posting, discussion forums and online chat. Ning also allows you to participate in other existing networks.
Timeframe	Continuous
Required skills and resources	Setting up a social media strategy and building an online community requires time.
Comments	Today EFSA uses Researchgate to consider potential experts for the Working Groups and to advertise relevant activities and events. The potential of this social network may be further explored.
Useful links	https://www.researchgate.net/publication/280069078_Academic_Social_Networking_Sites_What_They_Have_to_Offer_for_Researchers
Examples	https://reliefweb.int/sites/reliefweb.int/files/resources/FC4003368F0378D6C12570180039867F-care-tsu-17may.pdf

After action review (AAR)

General outline	
Method	After action review (AAR)
Short description	The After Action Review (AAR) is a simple process to review a project, an activity, an event or a task. In an AAR, the individuals involved discuss what happened, why it happened, what went well, what needs improvement, and what lessons can be learned from the experience with a view to doing as well or better next time.
Objective	Review a project, an activity, an event or a task
Target	Researchers, academia, risk assessors, farmers, consumers, NGOs
Geographical scope	European
Online/offline	Online and offline

Impacts	Consult
Engagement stream(s)	'Preparedness', 'Quality of science'
Engagement window ('Quality of science' stream only)	Report
Implementation	
Detailed description	**Call the meeting soon after the event:** AARs should be conducted when the people involved in the experience are still available and their memories are fresh. **Create a climate conducive to frank sharing:** Trust, openness and commitment to learning are key. • Emphasize that AARs are learning events, not critiques. • Everyone is regarded as an equal participant and group members should not fall into junior/senior dynamics. • Set ground rules. • If possible, hold the AAR in a different location from the work environment to create the right climate. **Appoint a facilitator:** The right facilitator is a key factor in contributing (or not) to the right climate for the AAR. Ideally this should be someone with a good understanding of the issue (to keep focus) and the AAR methodology, but who was not closely involved in the project or activity, in order to be objective. **Ask the 4 key questions:** a. What was supposed to happen? b. What actually happened? c. Why were there differences between the planned and the actual? d. What did we learn? After revisiting the objectives of the activity, it is always a good idea to start with the positive points, i.e. "what went well out of what happened?" For each point, keep asking "why?" • For problematic areas, ask "what could have gone better?" instead of "what went wrong?" Understanding "why" is equally fundamental. • Allow enough time for reflection. • Encourage all members to contribute, if necessary by using flip charts and colored cards. • Probe answers before recording them as lessons learned or good practices. **Record the AAR** It is important to have a clear and well-documented account of the AAR: • The name of the activity and main data related to it, including the names of the people involved in the activity and those participating in the AAR, Lessons learned, Good practices, Guidance and recommendations for the future, Key documents related to the activity. **Share the learning** Make the results of the AAR known to: • Those involved in the activity

	• Others who can benefit from the learning (such as those embarking on a similar activity) • Management and other parts of the organization that could take measures to redress or improve in areas that would benefit future activities of a similar nature.
Benefits	The application of AAR, over time, leads to new or revised knowledge, new and more effective ways of working together, and eventually to mastery within the context of the project
Risks	Avoid using AAR for evaluating performance or for assigning credit or blame; to do so will likely kill the process.
Required tools	Copies of the AAR framework with the four key questions. Pens/pencils, a flipchart with the large AAR framework used by the facilitator, Cards and sticky notes (optional).
Timeframe	The timeframe for an AAR depends on the event being reviewed. While AARs should ideally be as short and concise as possible, more complex events will require more time. For example, while an AAR at the end of a training course can last as little as half an hour, you may need as much as a full day for a more complex activity Review.
Required skills and resources	
Comments	It is important to use AARs for key, recurrent and strategic activities to ensure a constant flow of learning and improvement. It can be conducted in person, on the telephone, or online with tools such as instant messaging, teleconferencing, wikis and forums. Remember to provide adequate incentives for participation in a forum. This method could be used to learn lessons on the participatory methods that have been put in place during the lifecycle of a mandate (to run after an opinion is adopted). However, the reflection would be on the process (i.e. if the engagement methods put in place were successful or not), but not on the quality of the scientific output itself. For example, it could be used to assess the success of a pilot.
Useful links	http://kstoolkit.org/After+Action+Review
Examples	https://reliefweb.int/sites/reliefweb.int/files/resources/FC4003368F0378D6C12570180039867F-care-tsu-17may.pdf

Brainstorming

General outline	
Method	Brainstorming
Short description	Brainstorming is a technique to generate ideas. Participants are asked to think and quickly generate ideas around a question, problem or opportunity. The only rules are "no idea is too crazy" and "generate ideas, not critique." Without these barriers the oddest and most unexpected ideas can lead the discussion to something very

	constructive. It is often used as a divergent process to stimulate creativity and innovation and paired later with convergent processes to cluster and evaluate the ideas.
Objective	Collect ideas, encourage creativity, inspire innovation.
Target	Researchers, NGO, academia, farmers, staff
Geographical scope	European, International
Online/offline	Offline
Impacts	Inform, Involve
Engagement stream(s)	'Preparedness', 'Quality of science', 'Stakeholder dialogue'
Engagement window ('Quality of science' stream only)	Pre-mandate
Implementation	
Detailed description	How to use: • The facilitator sets out the two rules of brainstorming: 1. There are no bad or ideas that are too crazy. Let your imagination lose. Sometimes the craziest idea is the seed of a fabulous idea. 2. Offer only ideas, not judgment of the ideas. That comes later. Judgement during brainstorming can stop the flow of ideas and creativity. • The facilitator asks the question or states the brainstorming challenge. • Participants speak out their ideas or write down their ideas to share them later. If spoken aloud, a facilitator captures the ideas on flip charts or white boards. Use of cards to write down individual ideas can be useful. Importantly, you let the brainstorming take and follow its own course, without directing it. • When people stop offering ideas, let there be silence for a minute or two. Sometimes there are a few more ideas that come up out of that silence. • Signal the end of brainstorming and, if appropriate, move on to the sorting and evaluating of the ideas produced. The ideas can be collated and processes through subsequent methods such as grouping, and evaluating (ranking, voting, etc.). • This can also be a good point for reflection on the experience. People are often exhilarated and surprised by the creativity that was unleashed.
Benefits	

Risks	Some people feel that brainstorming can dilute ideas by moving too quickly. Notice if seeds of ideas need to be taken and nurtured after the brainstorming.
Required tools	• Plenty of cards (10 x 20 cm/ 4 x 8 inch) or post-it notes of different colours, and marker pens, (for recording and clustering ideas) • Flipchart or laptop & projector (for displaying the Brainstorming question) • Flipchart paper (placed on walls/boards) or pin boards, for putting up post-its/cards. Coloured dots/stickers (optional, for ranking exercise)
Timeframe	Creative processes are difficult to limit in time and require a certain flexibility. Depending on the brainstorming technique you choose, reflect on what timespan should be reasonable and where you can build in flexibility. A brainwriting exercise can be done in 20 minutes, whereas a Top 100 list can be mainstreamed into a two to three day training activity
Required skills and resources	Facilitator and Rapporteur (optional for groups up to 10; required for larger groups)
Comments	Where people are reluctant to speak up, use written brainstorming, asking people to write down one idea per card or post it note.
Useful links	http://kstoolkit.org/Brainstorming
Examples	

Buzz groups

General outline	
Method	Buzz Groups
Short description	Buzz Groups are a method for quickly and efficiently gathering feedback on a topic or responding to a specific question during a plenary (a session that includes all participants of an event). Without moving from their seats, participants form mini-clusters of two or three people and engage in free discussion – or 'buzz' – for a few minutes on a given question. Buzz Groups provide a welcome change of pace for participants, helping to enliven and energize large group meetings and events.
Objective	Buzz Groups can be applied to obtain participant feedback quickly, or to facilitate engagement with a topic, without breaking away from plenary.
Target	Researchers, users, industry, NGOs, CSOs
Geographical scope	Global, European, Local
Online/offline	Offline and online
Impacts	Consult, Involve

Engagement stream(s)	'Preparedness'
Engagement window ('Quality of science' stream only)	Not applicable
Implementation	
Detailed description	There are three basic ways to apply Buzz Groups: to obtain feedback, to engage participants with a topic, or to generate questions after a presentation. Instruct participants to form groups of either two or three with their immediate neighbours, without moving from their seats. Prefer groups of two for smaller sessions, and groups of three for larger ones. These are the Buzz Groups. The point is to allow participants to communicate with the person(s) next to them while keeping them seated in plenary. Pose a specific question to obtain feedback. This may be a question you devised previously, or one that has come up during the meeting. Ask each group to discuss it and formulate their ideas, in a maximum of 3 - 5 minutes. When the 3 - 5 minutes is up, call a halt to the discussions and ask the presenter of each Buzz Group to share their group's response to the question, in plenary, in one minute or less. If desired, record the feedback on cards or a flipchart sheet. Variations: **Buzz Groups using card collection**: Ask the Buzz Groups to discuss a question and record their responses on cards (one card per response). The cards are then collected and clustered based on similarities. Use a pin board to group the similar cards together. A collage of different idea clusters should emerge. This is especially useful in groups of around 30 participants where feedback is expected. **Buzz Groups to define presentation content - for expert or fact-finding presentations:** Buzz Groups can be used to generate questions to be answered during a presentation by an expert. This allows participants to define the presentation content, thereby increasing relevance and promoting engagement. Sufficient time should be allowed for the expert to prepare the presentation; depending on the expert and the issue, this could be minutes, hours or even a day.
Benefits	• Splitting people up into groups and moving them to different locations for short discussions takes time and requires more effort; Buzz Groups make short discussions easy and are particularly useful when time is limited. • Buzz Groups are useful as a follow-up to a presentation (especially if the presentation is particularly complex). They help to shift the session out of lecture mode, and they enable participants to have quick discussions to check on facts, reflect on what was presented, exchange ideas, and link

	ideas/concepts together. Buzz Groups can also help connect one session to the next, during a multi-session event, by posing leading questions related to the upcoming session. • Buzz Groups can also be used as an icebreaker near the beginning of a workshop. They are a useful way to encourage quiet people to get involved in the discussion and contribute, since they may be more comfortable talking in small groups.
Risks	
Required tools	Flip charts, paper hanging on the wall, a whiteboard
Timeframe	10 - 20 minutes (approx. 5 minutes 'buzzing', and 5 - 15 minutes to share feedback in plenary)
Required skills and resources	One or more facilitators
Comments	
Useful links	https://www.unicef.org/knowledge-exchange/files/UNICEF_Knowledge_Exchange_Toolbox.pdf
Examples	

Challenge prize

General outline	
Method	Challenge prizes
Short description	Challenge prizes offer a reward to whoever can first or most effectively meet a defined challenge. They act as an incentive for addressing a specific problem, rather than being a reward for past achievements. A challenge prize can incentivise innovation, focus attention on a particular issue and unlock financing and other resources.
Objective	• To solve big problems and, if successful, produce major breakthroughs in human knowledge and practice. • Raise awareness or encourage investment in a neglected issue or problem. • Encourage new collaborations and partnerships. • Gather new information or data. • Identify good ideas or excellent practices, and build capacity of new innovators.
Target	Researchers, industry, civil society, academia, CSOs
Geographical scope	EU, international, national
Online/offline	Online
Impacts	Consult, Involve
Engagement stream(s)	'Preparedness', 'Quality of science'

Engagement window ('Quality of science' stream only)	Plan
Implementation	
Detailed description	Challenge prizes can be used to solve problems in almost any field. The formula is simple: offer a financial reward for the first or best solution to a problem, attract the best innovators, and give them the support they need to compete. Prizes specify a problem to be solved and incentivize solvers anywhere to address the issue in whatever way they deem best. Published criteria define what success looks like, without prejudging how it is achieved. Challenge prizes can incentivize new thinking and reward the best solutions, wherever they come from, however they work. They go beyond the usual suspects and reach innovators that other funding mechanisms miss. Challenge prizes can also bring together innovators and help them thrive. Prizes help innovators by raising their profile, bringing them into contact with expertise, investment and new customers. And alongside the cash prize at the end, prizes typically have other support too, such as seed funding, help with networking, mentoring, testing or access to legal and marketing support. Finally, prizes can unlock systemic change. They don't just create solutions to a narrow technical problem. They can raise awareness of a broader issue with the public, and they can shape policy and inform regulators. Done right, they can create whole new technologies and markets, and shape them in a socially beneficial way. Challenge prizes are particularly suited to solving problems that share some key characteristics: • Problems that are defined well enough so that a clear and unambiguous goal for innovators can be set. • Problems that would benefit from the fresh thinking that comes from new innovators; for instance, because the field is stagnant, has few players, or there is a related field that is much more dynamic. • Problems where a prize could attract new innovators to address them, within a reasonable budget and timescale. • Problems where the additional funding and attention the prize would bring would plausibly accelerate progress (and not just fund what's already happening). • Problems where the solution could thrive in the market (or find continued funding) after the prize is awarded.
Benefits	Challenge prizes can help funders maximise value and manage risk because resources are allocated to competitors who deliver innovation. Challenge prizes stimulate and support new ideas and new people/groups to become active problem solvers.

Risks	• Setting up a prize often requires a significant amount of research in order to identify the right challenge. Failure to set a suitable end goal is likely to fundamentally undermine the effectiveness of the challenge. • The competitive nature of challenge prizes may not be best suited to complex societal issues. Stimulating enough attention around the challenge to encourage individuals or teams to carry the risks associated with working towards an uncertain reward. • Understanding why a challenging issue has not been met is crucial since a prize may not resolve the deep systemic barriers to innovation. • Narrowly defined challenges may risk excluding more unpredictable solutions. Therefore, the problem and solution must be defined appropriately or left open in a way that allows for unpredictable effective solutions to emerge. • Crowdsourcing exercises to define 'challenges', rather than just crowd-sourcing 'solutions', may lead to social innovations that are human focused rather than technology focused. • Challenge prizes tend to be technology/product innovation focused rather than social innovation focused. Some recent challenges have focussed on complex social/environmental problems.
Required tools	
Timeframe	Challenge prizes are likely to take around a year to set up and could take several years to complete.
Required skills and resources	Intermediate skills are required in: Subject-matter expertise, IT skills, Event organisation skills, Project management skills.
Comments	Nesta is an innovation foundation and can organize it https://www.nesta.org.uk/ It could be used for innovation initiatives (similar to hackathons)
Useful links	NESTA challenge prizes practical guide https://www.nesta.org.uk/toolkit/challenge-prizes-a-practice-guide/ https://challenges.org/
Examples	United States Agency for International Development

Community based participatory research

General outline	
Method	Community based participatory research
Short description	The community is involved in all stages of the research process, from setting the questions, to framing and doing the research, interpreting the results and communication. Research is focused on better understanding and then improving a certain situation. If combined with actions to implement findings, this leads to a cycle of participatory action research.
Objective	• Improving intervention design and implementation by facilitating participant recruitment and retention. • Increasing the quality and validity of research.

<table>
<tr><td></td><td>• Enhancing the relevance and use of data.
• Increasing trust and bridging cultural gaps between partners.
• Providing resources for the communities involved.</td></tr>
<tr><td>Target</td><td>NGOs, researchers, academia, risk assessors, consumers</td></tr>
<tr><td>Geographical scope</td><td>Regional, Local</td></tr>
<tr><td>Online/offline</td><td>Offline</td></tr>
<tr><td>Impacts</td><td>Involve</td></tr>
<tr><td>Engagement stream(s)</td><td>‘Preparedness’, ‘Quality of science’</td></tr>
<tr><td>Engagement window (‘Quality of science’ stream only)</td><td>Plan, Do, Verify, Report</td></tr>
<tr><td colspan="2">Implementation</td></tr>
<tr><td>Detailed description</td><td>Community-based participatory research (CBPR) is a "collaborative approach to research that equitably involves all partners in the research process and recognizes the unique strengths that each brings. CBPR begins with a research topic of importance to the community, has the aim of combining knowledge with action and achieving social change to improve health outcomes and eliminate health disparities."

Conducting Research: A Comparison of Traditional Research and Community-Based Participatory Approaches
<table><tr><th>Traditional Research Model</th><th>Research Component or Step</th><th>Community-Based Participatory Model</th></tr><tr><td>Issues identified based on epidemiologic data and funding priorities</td><td>Health concern(s) identified</td><td>Full participation of community in identifying issues of greatest importance.
Increased motivation to participate in research process.</td></tr><tr><td>Design based entirely on scientific rigor and feasibility; funding requested primarily for research expenses</td><td>Study designed and funding sought</td><td>Community representatives involved with study design and proposal submission.
Increased acceptability of study approach, include funds for community.</td></tr><tr><td>Approaches to recruitment and retention based on scientific issues and “best guesses” regarding reaching community members and keeping them involved in the study.</td><td>Participants recruited and retention systems implemented</td><td>Community representatives provide guidance regarding recruitment and retention strategies.
Enhanced recruitment and retention.</td></tr><tr><td>Measurement instruments adopted/adapted from other studies. Tested chiefly with psychometric analytic methods.</td><td>Measurement instruments designed and data collected</td><td>Measurement instruments developed with community input and tested in similar population.
Potentially sensitive issues handled better and increased reliability and validity of measures.</td></tr><tr><td>Researchers design intervention based on literature and theory.</td><td>Intervention designed and implemented</td><td>Community members help guide intervention development.
Greater cultural & social relevance to the population served, increasing likelihood of producing positive change.</td></tr><tr><td>Researchers report findings from statistical analysis and publish in peer-reviewed journals.</td><td>Data analyzed and interpreted, findings disseminated and translated.</td><td>Community members assist with interpretation, dissemination & translation of findings.
Greater sensitivity to cultural & social norms, climate and potential group harm; enhances potential for translation of findings into practice.</td></tr></table>Source: Viswanathan M, Ammerman A, Eng E, Gartlehner G, Lohr KN, Griffith D, Rhodes S, Samuel-Hodge C, Maty S, Lux L, Webb L, Sutton SF, Swinson T, Jackman A, Whitener L. (2004). Community-Based Participatory Research: Assessing the Evidence. Evidence Report/Technology Assessment No. 99 (Prepared by RTI–University of North Carolina Evidence-based Practice Center under Contract No. 290-02-0016). AHRQ Publication 04-E022-2. Rockville, MD: Agency for Healthcare Research and Quality.</td></tr>
<tr><td>Benefits</td><td>The US National Institutes of Health give the following advantages of community-based participatory research:
• Joining partners with diverse expertise to address complex public health problems.</td></tr>
</table>

	• Improving intervention design and implementation by facilitating participant recruitment and retention. • Increasing the quality and validity of research. • Enhancing the relevance and use of data. • Increasing trust and bridging cultural gaps between partners. • Providing resources for the communities involved. • Benefiting the community and researchers alike through the knowledge gained and actions taken. The potential to translate research findings to guide the development of further interventions and policy change.
Risks	
Required tools	
Timeframe	From 1 month upon to continuous, depending on already established partnerships.
Required skills and resources	Requires intermediate subject-matter expertise and advanced facilitation and project management skills.
Comments	This method combines elements of Science Shops (Civil Society Driven Research) and Participatory Action Research, and Citizen Science as well. Projects can be part of larger themes of continuous attention (i.e. programmes). Students and research institutes can also be part of the research groups. Community-researchers can be trained as well.
Useful links	http://accelerate.ucsf.edu/files/CE/manual_for_researchers_agencies.pdf
Examples	

Community of practice

General outline	
Method	Community of practice
Short description	Communities of practice (CoPs) are groups of people who share a specific area of work, interest, or passion, in a knowledge domain. CoPs share knowledge, learn from each other and interact regularly with peers in an enabling networked environment. Organizations use CoPs to share knowledge based on specific themes and areas, to break down organizational silos, and stimulate interdisciplinary teamwork. CoPs are driven by the willing participation of their members (principle of self-selection) and are focused on learning, sharing knowledge and strengthening capacity. Engaged in developing expertise and solving problems.
Objective	• Sharing and learning about practices in which colleagues are interested • Encouraging professional development and accelerating learning • Responding more rapidly to stakeholders' needs and inquiries • Learning by doing (action learning)

	• Identifying, documenting and sharing best practices • Collective problem-solving • Reducing duplication and avoiding re-inventing the wheel • Connecting "islands of knowledge", fostering cross-functional and cross divisional collaboration.
Target	Researchers, academia, students, NGOs
Geographical scope	European, International
Online/offline	Online/Offline
Impacts	Inform, Consult, Involve
Engagement stream(s)	'Preparedness', 'Quality of science'
Engagement window ('Quality of science' stream only)	Pre-mandate
Implementation	
Detailed description	What makes a community of practice succeed depends on the purpose and objective of the community as well as the interests and resources of the members of that community. Wenger, who first proposed the method, identified seven actions that could be taken in order to cultivate communities of practice: 1. Design the community to evolve naturally – Because the nature of a community of practice is dynamic, in that the interests, goals, and members are subject to change, CoP forums should be designed to support shifts in focus. 2. Create opportunities for open dialog within and with outside perspectives – While the members and their knowledge are the CoP's most valuable resource, it is also beneficial to look outside of the CoP to understand the different possibilities for achieving their learning goals. 3. Welcome and allow different levels of participation – Wenger identifies 3 main levels of participation. 1) The core group who participate intensely in the community through discussions and projects. This group typically takes on leadership roles in guiding the group 2) The active group who attend and participate regularly, but not to the level of the leaders. 3) The peripheral group who, while they are passive participants in the community, still learn from their level of involvement. Wenger notes the third group typically represents the majority of the community. 4. Develop both public and private community spaces – While CoPs typically operate in public spaces where all members share, discuss and explore ideas, they should also offer private exchanges. Different members of the CoP could coordinate

	relationships among members and resources in an individualized approach based on specific needs. 5. Focus on the value of the community – CoPs should create opportunities for participants to explicitly discuss the value and productivity of their participation in the group. 6. Combine familiarity and excitement – CoPs should offer the expected learning opportunities as part of their structure, and opportunities for members to shape their learning experience together by brainstorming and examining the conventional and radical wisdom related to their topic. 7. Find and nurture a regular rhythm for the community – CoPs should coordinate a thriving cycle of activities and events that allow for the members to regularly meet, reflect, and evolve. The rhythm, or pace, should maintain an anticipated level of engagement to sustain the vibrancy of the community, yet not be so fast-paced that it becomes unwieldy and overwhelming in its intensity (Wenger, McDermott & Snyder 2002).
Benefits	Members of communities of practice are thought to be more efficient and effective conduits of information and experiences.
Risks	
Required tools	Technologies can support communities of practice. They can range from the simple use of a mailing list to the more expanded use of online social networks, combing discussion forums, blogs and wikis. The use of technology needs to support the overall goal of the community of practice and must bring added value.
Timeframe	
Required skills and resources	
Comments	Already in place at EFSA
Useful links	https://en.wikipedia.org/wiki/Community_of_practice
Examples	

Concept mapping

General outline	
Method	Concept mapping
Short description	Concept mapping is a structured process, focused on a topic or construct of interest, involving input from one or more participants, that produces an interpretable pictorial view (concept map) of their ideas and concepts and how these are interrelated. Mapping is based on multivariable statistical analyses in which statements produced during a brainstorming session are grouped in weighted clusters. A mind-map, also known as a concept map, is a diagram that depicts connections between organizations, people, concepts, ideas, tasks or events. These elements can be represented through many types of media, including

	text, images and video. The elements are generally connected to each other visually through arrows, often labelled with text.
Objective	This is an approach particularly designed for facilitating consensus in the understanding and organization for various concepts.
Target	Researchers, industry, NGOs
Geographical scope	Local, European
Online/offline	Offline/online
Impacts	Consult, Involve
Engagement stream(s)	'Quality of science'
Engagement window ('Quality of science' stream only)	Pre-mandate, Plan
Implementation	
Detailed description	Concept mapping is a general method that can be used to help any individual or group to describe their ideas about some topic in a pictorial form. There are several different types of methods that all currently go by names like "concept mapping", "mental mapping" or "concept webbing." All of them are similar in that they result in a picture of someone's ideas. It is primarily a group process and so it is especially well-suited for situations where teams or groups of stakeholders have to work together. A concept mapping process involves six steps that can take place in a single day or can be spread out over weeks or months depending on the situation. The first step is the **Preparation Step**. There are three things done here. The facilitator of the mapping process works with the initiator(s) (i.e., whoever requests the process initially) to identify who the participants will be. A mapping process can have hundreds of stakeholders participating, or relatively small groups of between 10 and 20 stakeholders involved. Second, the initiator works with the stakeholders to develop the focus for the project. In the **Generation Step** the stakeholders develop a large set of statements that address the focus. For instance, they might generate statements that describe the specific activities that will constitute a specific social program. Or, they might generate statements describing specific outcomes that might occur as a result of participating in a program. A wide variety of methods can be used to accomplish this including traditional brainstorming, brainwriting, nominal group techniques, focus groups, qualitative text analysis, and so on. The group can generate up to 200 statements in a concept mapping project. In the **Structuring Step** 1. each participant sorts the statements into piles of similar ones and 2. rates each of the statements on some scale.

	Usually the statements are rated on a 1-to-5 scale for their relative importance. The **Representation Step** is where the analysis is done. The statistical analysis – multidimensional scaling – takes the sort data across all participants and develops the basic map where each statement is a point on the map and statements that were piled together by more people are closer to each other on the map. The second analysis – cluster analysis – takes the output of the multidimensional scaling (the point map) and partitions the map into groups of statements or ideas, into clusters. In the fifth step – the **Interpretation Step** – the facilitator works with the stakeholder group to help them develop their own labels and interpretations for the various maps. Finally, the **Utilization Step** involves using the maps to help address the original focus. On the program side, the maps can be used as a visual framework for operationalizing the program. on the outcome side, they can be used as the basis for developing measures and displaying results.
Benefits	• Concept mapping helps people to think more effectively as a group without losing their individuality. It helps groups to manage the complexity of their ideas without trivializing them or losing detail. • Mind-maps are useful for conceptually breaking down ideas to illustrate links and connections between people, concepts, ideas and organizations. These links become clearer when they are visualized. • In a problem solving context, mind-maps can be drawn to describe four types of "concepts": problem description, causes, effects and solutions. • Mind-maps can be used to provide structure to argument. • In meetings, mind-maps are useful for graphically representing and structuring the results of brainstorming activities.
Risks	
Required tools	Flip chart and markers for the note-taker. Tables, chairs. There are many online/downloadable tools that allow for the creation of mind-maps or concept maps, such as: http://cmap.ihmc.us/ http://freemind.sourceforge.net/wiki/index.php/Main_Page http://www.mindomo.com, http://www.mindmeister.com
Timeframe	4 hours – 1 day
Required skills and resources	Skilled facilitator
Comments	Alternative workshop format
Useful links	https://socialresearchmethods.net/kb/concept-mapping/
Examples	The National Center for Biotechnology Information https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5451901/

Consensus Conference

General outline	
Method	Consensus Conference
Short description	The purpose of the consensus conference is to enrich and expand a debate on a socially controversial topic. A group of citizens rather than experts and politicians get together and set the agenda and the basis for assessment within a problem area.
Objective	The consensus conference aims to give citizens a meaningful opportunity to influence on policy decisions and assessing issues relevant for society. It has also been used for social experiments, research projects and as a means for promoting social awareness and public debate.
Target	Consumers, citizens, researchers, academia, NGOs, risk assessors
Geographical scope	National, Regional, Local
Online/offline	Offline
Impacts	Consult, Involve
Engagement stream(s)	'Preparedness'
Engagement window ('Quality of science' stream only)	Not applicable
Implementation	
Detailed description	Participants are selected from a group of citizens who are invited to apply. Individuals who are invited are members of the lay public that have no specific knowledge of the issue at hand. This citizens' panel is chosen to be demographically representative of the public. Members of the citizens' panel participate in 2 preparatory weekends and are given material prepared by a communicator to gain a basic understanding of the issue at hand. The panel then participates in a 4-day conference. Over the duration of the conference, the citizens' panel participates in a Q&A session with experts, where they get opposing views. Citizens then prepare a final document containing their views, opinions, stances, and recommendations for the issue. On the final day of the conference, the panel then discusses their final document with policy- and decision-makers.
Benefits	• The consensus conference gives an opportunity to hear citizen voices – a large group of society who are usually not asked about their view on a specific problem. The inclusion can reduce democratic deficit of the citizens and give them ownership of the process and a sense of living in a successful democracy as they act advisers to the politicians.

	• The consensus reached by the citizens' panel contributes to politicians, experts and society as a whole on the ideas and concerns of ordinary citizens. • As it often is experts and policy makers who sets the agenda, the consensus conference allows for ordinary citizens to have a say and influence the debate. • The voice of the citizens reflects views and concerns that politicians don't necessarily see. • The citizens' panel make recommendations with awareness and knowledge and this can influence the policy-making process in a new way. This opens for a more comprehensive decision-making. • The consensus conference is well suited for a new topic early in the development process to frame the debate. It can help shape a problem area that is not yet widely discussed by different parties especially at the political level. It is also suitable for topics in need of new inputs, development or a new agenda.
Risks	• The recommendations can't be used if the development or application of the technology or problem is not an object of political decision making. The consensus conference is most suited to topics which do not have a clear policy option. • The media may focus on the disagreements rather than the agreements. • The eternal criticism: can the recommendations formed by 10-30 citizens be regarded as the general opinions of the entire population? Using random stratified sampling can create a group that is demographically representative of a population. The results of the consensus conference will not be the only form of evidence that decision makers use. • The consensus conference does not match a problem area that is too far in the development process.
Required tools	
Timeframe	The process requires 12 months of preparation. Event duration: 3-4 day long
Required skills and resources	Subject-matter expertise: Intermediate IT skills: Basic Facilitation skills: Advanced Event organisation skills: Advanced Project management skills: Advanced
Comments	The citizen's panel is made up of interested citizens. Here we describe how the participants of panels for consensus conferences are selected by the Danish Board of Technology (the Danish consensus conference model). Participants are advertised for in 5-6 regional newspapers that provide comprehensive geographical coverage of Denmark, or in a number of national newspapers. Persons interested in participating are invited to apply to the Secretariat by submitting a short (no more than one page) description of themselves, the knowledge they have on the

	topic and the reason why they wish to participate. On the basis of the submitted applications, a panel of 10-14 lay people is selected. Basically, the panel members are unpaid volunteers but compensation for loss of income is offered by the Board. The panel is selected so that it is composed of people with varied backgrounds based on a number of socio-demographic criteria: age, gender, education, occupation and area of residence. It is essential that no member of the lay panel is an expert in the topic or represents special interests in the field. However, when individual lay people are particularly concerned about the topic being debated, they are deemed to have a special interest that is acceptable. This was the case, for instance, in the conference on infertility (October 1993) where many of the lay-panel applicants (65 people, i.e. 49 per cent) suffered from involuntary infertility. The steering committee included two of these lay people in the panel, because they were considered to be affected by the topic as lay people - not as representatives of special interest groups *per se.* Finally, physical and mental disabilities may be impediments to participation in the project (the conference and preparatory phases are very hard work and extremely concentrated). The selection procedure does not ensure that the panel comprises a statistically representative sample of the population, but the panel is selected from interested people in such a way that several attitudes are represented. Although applicants for the lay panel are not explicitly asked to reveal their attitudes, these are usually apparent from their applications.
Useful links	https://en.wikipedia.org/wiki/Consensus_conference http://people.ucalgary.ca/~pubconf/Education/grundahl.htm
Examples	

Crowdsourcing

General outline	
Method	Crowdsourcing
Short description	Crowdsourcing is a sourcing model in which individuals or organizations obtain goods and services, including ideas and finances, from a large, relatively open and often rapidly evolving group of internet users; it divides work between participants to achieve a cumulative result. The word crowdsourcing itself is a portmanteau of crowd and outsourcing, and was coined in 2006.
Objective	Engaging a diverse and broad spectrum of people whose skills, talents, and knowledge are key to solving problems and driving innovation.
Target	Civil society, researchers, farmers
Geographical scope	Global
Online/offline	Online

Impacts	Involve
Engagement stream(s)	'Preparedness', 'Quality of science'
Engagement window ('Quality of science' stream only)	Do
Implementation	
Detailed description	As from 2018, EFSA has been testing crowdsourcing as a complementary method of engaging stakeholders and the public in the process of scientific assessment. Crowdsourcing offers opportunities for widening EFSA's evidence base, promoting data sharing and re-use, accessing new expertise, encouraging public enthusiasm and support for science, and – ultimately - increasing transparency and trust in science. The feasibility study and testing phase concluded that crowdsourcing would bring value in the following areas: data collection, validation and sharing; innovation; systematic literature reviews; identification of experts; consultation and co-creation. So far, two innovation contests have been launched on an open source platform with the aim to apply this method in the risk assessment process more systematically.
Benefits	• Technology allows to crowdsource large pools of participants, which means a large dataset and more in-depth data analysis. • Vast range of users provide huge diversity in their experiences.
Risks	
Required tools	Use of a crowdsourcing platform like Innocentive.
Timeframe	
Required skills and resources	
Comments	Already in place at EFSA
Useful links	https://www.innocentive.com/
Examples	U.S. Government

Delphi Method/Technique

General outline	
Method	Delphi Method/Technique
Short description	The Delphi method is a multiple iteration survey method that enables anonymous, systematic refinement of expert opinion with the aim of arriving at a combined or consensual position. Its purpose is to generate discussion and enable a judgement on a specified topic to be made so that policy decisions can be taken which can claim to represent

	a given group's wants and views. The Delphi technique uses a series of consecutive questionnaires to determine the perceptions of a group of individuals. The Delphi method allows respondents to communicate their opinions anonymously. Each questionnaire is considered a round. The method is often used to prioritize research/topics.
Objective	Generate discussion and enable a judgement on a specified topic to be made so that policy decisions can be taken which can claim to represent a given group's wants and views.
Target	Researchers, CSOs
Geographical scope	EU, international, national, regional, local
Online/offline	Offline/online
Impacts	Consult
Engagement stream(s)	'Preparedness', 'Quality of science'
Engagement window ('Quality of science' stream only)	Plan
Implementation	
Detailed description	There are four features which characterize the Delphi method and distinguish it from other group decision-making processes. They are anonymity, iteration with controlled feedback, statistical group response and expert input. The Delphi method is presented as an alternative to the committee process or the one-off questionnaire as a means of obtaining a group's opinion or judgement on a topic. It is often seen as having an important contribution to make in facilitating controlled and rational group communication. The method has been extensively used for exploring policy issues and facilitating decision making by business organisations and government agencies, as well as foresight studies.
Benefits	The method offers several benefits, such as the use of an expert panel, controlled anonymous feedback, and development of consensus. The anonymous feedback supports interdependent feedback not based on personal differences or hierarchies between the involved experts.
Risks	The Delphi method is an alternative to the committee process, or one-off questionnaire, although its ability to produce a convergence and consensus on a given topic should be viewed with caution. The Delphi method takes more time, than a survey. It requires a lot of resources (a high number of experts involved in the panel, and is time-consuming).
Required tools	
Timeframe	The Delphi method needs a one year time frame at a minimum, (1-2 years). There are different phases including: survey, data analysis and feedback (next survey round). Before the process begins it is not

	possible to predict how many rounds the whole process of the Delphi would need.
Required skills and resources	Subject-matter expertise: Advanced IT skills: Basic Facilitation skills: Advanced Event organisation skills: Basic Project management skills: Intermediate
Comments	Already in place. This is one of the expert knowledge elicitation (EKE) techniques
Useful links	https://www.rand.org/pardee/pubs/futures_method/delphi.html https://en.wikipedia.org/wiki/Delphi_method
Examples	

Design Thinking, Project-in-a day

General outline	
Method	Design Thinking, Project-in-a day
Short description	Design Thinking (DT) is a design methodology that provides a solution-based approach to solving problems. It is extremely useful in tackling complex problems that are ill-defined or unknown, by understanding the human needs involved, by re-framing the problem in human-centric ways. This is prosecuted by stimulating the creation of innovative ideas in brainstorming sessions and by adopting a hands-on approach in prototyping and testing through the five stage of Design Thinking. It is a general approach, that could be applied to many occasions and will empower anyone to apply the Design Thinking methods in order to solve complex problems that occur around us — in companies, public administration, urban scenarios. This method is very interesting when we are looking for "rapid prototyping" and "learning by making" as a strategy for doing effective innovation.
Objective	The objective is to stimulate the unlock forms of value, not available clearly at the beginning of the process and to help create a sort of "multiplier effects". Hence, we also need to design processes that allow us to spot new patterns, encourage the evolution of new ideas, and help new ideas scale to the point where they have impact.
Target	Researchers, Academia, Industry, Consumers, NGOs, Citizens
Geographical scope	Local, national, European
Online/offline	Offline
Impacts	Inform, Consult, Involve
Engagement stream(s)	'Quality of science'
Engagement window	Pre-mandate

('Quality of science' stream only)	
Implementation	
Detailed description	The aim of this engagement method is to stimulate the unlock forms of value, not available clearly at the beginning of the process and to help to create a sort of "multiplier effects". Hence, we also need to design processes that allow us to spot new patterns, encourage the evolution of new ideas, and help new ideas scale to the point where they have impact. The five stages of Design Thinking are: 1. Empathizing: Understanding the human needs involved. 2. Defining: Re-framing and defining the problem in human-centric ways. 3. Ideating: Creating many ideas in ideation sessions. 4. Prototyping: Adopting a hands-on approach in prototyping. 5. Testing: Developing a prototype/solution to the problem. The design thinking could be implemented through laboratories that involve directly participants. 25-40 participants per laboratory is a good number that enable, one single expert facilitator to manage the participants in groups of 4-5 persons. It is important to define with accuracy the participants to the lab, maybe splitting it in more round, but in general it is a process that involve not more than 40-50 persons, from begin to end. The lab is not strictly closed, so everyone could propose participants to the lab, and in general they are welcomed always, even if the process is already in phase 2 or 3. Participants need to be invited in the first event and then must be kept in the loop for the entire process.
Benefits	This methodology is very useful to figuring out, how to make information available, more understandable and clearer for all participants. This method is very interesting when we are looking for "rapid prototyping" and "learning by making" as a strategy for doing effective innovation. This method is also very appropriate as a participatory method, because the complexity of the interactions cannot possibly be anticipated by even the smartest of plans, it is important to make plan and test them in participatory ways, letting others participate in the innovation activities. A design mindset is not problem-focused, it's solution-focused and action-oriented.
Risks	If not managed well, it can result in failure. If not sufficiently motivate, it might result difficult to keep the commitment of the participants over different phases
Required tools	Beside to the expert facilitator and to some assistant to the facilitator (1 each 2 groups, in order to be supportive) it is necessary to have an enough flexible large room available: • Table and chairs, not fixed

	• Several large sheet of white paper • 1 Whiteboard for the facilitator • As much as possible blocks of Post-it of several colours, color markers (big top) • ActionCam/HiFi-Cam to acquire groups activity (and enable participants dynamics analysis offline) • Double check if it is possible to attach to the wall room surface posters and printed materials
Timeframe	The timeline is typically of 2-3 months, in order to separate the different phases.
Required skills and resources	The role of the facilitator is key and a skilled person is needed.
Comments	This method could work in some specific reflexions involving stakeholders (i.e. strategy definition) or to facilitate reflections during the early stages of the RA process (problem formulation)
Useful links	https://www.user-participation.eu/planning-the-process/step-5-participatory-methods/planning-the-future-visions-strategies-projects/project-in-a-day-method-description https://www.interaction-design.org/literature/article/5-stages-in-the-design-thinking-process
Examples	Project in a day tested in Trento, Kosice, and Vas County https://www.user-participation.eu/planning-the-process/step-5-participatory-methods/planning-the-future-visions-strategies-projects/project-in-a-day-method-description/showcase-project-in-a-day

Discussion forum

General outline	
Method	Discussion Forum
Short description	A discussion forum is a virtual place on the internet where conversations can take place and information can be shared more easily among a geographically dispersed group of people. Discussion forums are typically created around a specific topic of common interest or for a specific user group around a piece of work.
Objective	• Conversations supporting a global community of practice. • Holding a week long asynchronous online meeting in a web forum. • Carrying out a peer assist with colleagues around the world. • Informal places to create and nurture relationships. Structured or informal training and learning groups, especially where conversation is useful. • Project coordination and teamwork. • Informal information and knowledge sharing. • Asynchronous meetings as an alternative to face-to-face meetings and conference calls.
Target	Researchers, experts, academia, farmers, NGOs

Geographical scope	Global
Online/offline	Online
Impacts	Consult, Involve
Engagement stream(s)	'Preparedness', 'Quality of science'
Engagement window ('Quality of science' stream only)	Pre-mandate, Plan, Do, Verify
Implementation	
Detailed description	There are many ways to use discussion forums, from formal structured conversations to informal "cafés". The difference between them is the focus and duration of the conversation.
Benefits	• When people are in different places and time zones, making synchronous interactions more difficult, discussion forums can be useful. • When people are working in a second language and the slower pace of a web-based discussion allows more time to make meaning across languages. • When it is important to know who said what and when they said it, because the discussion forum lists who made a post and when they posted it. This is especially useful when trying to track project work.
Risks	
Required tools	Discussing group software: Dgroups, Yahoogroups, Googlegroups
Timeframe	
Required skills and resources	
Comments	Like other methods already in place at EFSA
Useful links	https://www.unicef.org/knowledge-exchange/files/UNICEF_Knowledge_Exchange_Toolbox.pdf
Examples	

E-conference

General outline	
Method	e-Conference
Short description	An e-conference is a temporary online forum on a specific topic. E-conferences are typically carefully planned out, have clear time frames and focus around specific topics. E-conferencing is usually done via the Web. There is the possibility for server-based e-conferencing as well. E-conferencing can also take the form of audio and/or video

	conversations, message swapping, file sharing and other forms of electronic interaction. All these aim at simulating the experience of being in the same room. E-conferencing can happen in real time, with everyone interacting at once, which is called 'synchronous conferencing". It delivers live streaming audio and video from the multiple participants of the conference.
Objective	E-conferencing can be used for business meetings, educational sessions or other types of events.
Target	Researchers (organizers), policy makers, CSOs, users, industry, consumers
Geographical scope	EU, international
Online/offline	Online
Impacts	Inform, Consult, Involve
Engagement stream(s)	'Preparedness', 'Quality of science'
Engagement window ('Quality of science' stream only)	Pre-mandate, Plan, Do, Verify
Implementation	
Detailed description	The main steps when organizing an e-conference are: • Choosing the relevant topic. • Choosing a "digital venue" (the platform/software to be used). • Choosing time spot which is suitable to the different participants. • Appointing the discussion chair person. • Contacting speakers and participants. • Promoting the e-conference. After the e-conference, a final synthesis document which discusses and summarises the major themes and findings of the conference discussion should be delivered.
Benefits	• Participants can be located all over the globe. • It is cheaper to participate in e-conference than to attend a meeting. • Synergy with face-to-face activities.
Risks	• Vulnerable to technical breakdowns; • If the internet connection is not good, key speakers, presenters or guests may get disconnected from the conference, missing or taking with them valuable information.
Required tools	
Timeframe	Depending on the project needs the time line may vary.
Required skills and resources	Subject-matter expertise: Intermediate IT skills: Advanced

	Facilitation skills: Advanced Event organisation skills: Advanced Project management skills: Basic
Comments	Already in place at EFSA
Useful links	http://actioncatalogue.eu/method/7408
Examples	The Food and Agriculture Organization - FAO

Envisioning the future

General outline	
Method	Envisioning the future
Short description	A scenario-building method that invites collective reflection about plausible futures. It works by imagining a time in the future (three to six years ahead) and assumes that the organization, section or field presence has achieved important goals.
Objective	• To think about the future. • To develop a vision of where you want to go. • To explore alternative solutions for the future. • To motivate and inspire a team and create cohesion around common goals. • Particularly suited for retreats on planning and/or team building.
Target	Risk assessors, researchers, academia
Geographical scope	Local, European
Online/offline	Offline
Impacts	Inform, Involve
Engagement stream(s)	'Quality of science'
Engagement window ('Quality of science' stream only)	Pre-mandate
Implementation	
Detailed description	Decide which organizational entity will be the focus of the exercise. It can be the entire office, a field presence, a section, a cross-division team, or a branch. Normally, this will depend on who is participating in the exercise. Agree on when in the future the envisioning exercise will take place. Normally, it should be more than one year ahead — otherwise the future will simply match with the completion of the annual workplan, which would defeat the "vision" element of the activity. Conversely, setting a timeframe too far in the future could take away the element of

	reality which is important to maintain. If the time chosen is 20 years down the road, for instance, participants will tend to think in more utopian terms and disconnect the vision from the operational steps to achieve it. If the purpose is to emphasize the vision element, a five- to six-year timeframe would be appropriate. If the emphasis is more on medium-term goals and actions and how to achieve them, a shorter timeframe of two to three years would be best. Announce the positive assumption about the future. This can simply be: "Imagine that in four years' time your team will have achieved important goals". It can also be more specific, for instance: "Imagine that in four years' time: "the treaty bodies system will be considerably improved". The positive assumption is accompanied by a number of questions aimed at eliciting the elements and details to explain what was achieved, why and how. Divide participants into groups of four to six people to answer the questions. After the group work, re-convene in plenary, where each group presents their future vision. A competition element can be introduced in which participants are asked to vote for the presentation that convinced them the most. If the exercise is in the form of a competition, this should be announced from the outset so that each group can prepare to convince and captivate the plenary with a well-organized and colourful presentation. Alternatively, the plenary can build a common vision with the contributions from the different groups through a consensus process. In this case, the envisioned future will be the result of a fully collective process, with more ownership from the entire group.
Benefits	
Risks	Plan in advance, otherwise the future will simply match with the completion of the annual workplan, which would defeat the "vision" element of the activity
Required tools	Flip charts for each group Instructions for each participant Markers and pencils.
Timeframe	Timing (1 hour 30 minutes to 3 hours). This example covers 2 hours: • Instructions (10 minutes) • Individual preparation time (20 minutes) • Group preparation time (1hour) • Group presentation time (20 minutes) • Voting on the best proposal (10 minutes)
Required skills and resources	Skilled facilitators
Comments	Alternative workshop format. Interesting for strategy development purposes and for emerging risks (forward-looking approach)
Useful links	http://acnudh.org/wp-content/uploads/2011/11/slitoolkit.pdf

Examples	

Expert knowledge elicitation (EKE)

General outline	
Method	Expert knowledge elicitation (EKE)
Short description	Expert knowledge elicitation is a method to elicit from knowledgeable experts quantitative parameters and their uncertainties in a probabilistic way. Experts can be asked for specific information (facts, data, sources, requirements, etc.) or for judgements about things (preferences, utilities, probabilities, estimates, etc.). Currently, this method is used for mandate-related engagement, although its potential could be worth exploring for Engagement for preparedness, too.
Objective	Online
Target	Consult
Geographical scope	Already in place at EFSA
Online/offline	Offline
Impacts	Inform, Involve
Engagement stream(s)	'Preparedness', 'Quality of science'
Engagement window ('Quality of science' stream only)	Pre-mandate, Plan, Do, Verify
Implementation	
Detailed description	
Benefits	
Risks	
Required tools	
Timeframe	
Required skills and resources	
Comments	
Useful links	
Examples	

Expert Interview with audience

General outline	
Method	Expert Interview with audience
Short description	The Expert Interview is a participatory question and answer session in which members of the audience take the lead in asking a subject matter expert questions that are oriented towards their needs and interests, within the context of his/her expertise. Instead of the expert giving a presentation on what s/he thinks people want to know, this tool lets participants decide on the questions they consider important. The tool can be used to 'interview' up to three experts and can accommodate any number of participants.
Objective	• To introduce a topic or theme at the beginning of a workshop/ multi-session event. • To provide an alternative to a formal podium presentation or keynote with experts. • To elicit knowledge from resource persons without requiring them to do a lot of preparation. • To introduce new concepts or potentially 'hot topics' that participants may be curious about but have little knowledge of.
Target	Researchers, academia, practitioners, users, industry, NGOs, CSOs
Geographical scope	Global, European, local
Online/offline	Offline
Impacts	Inform, Consult
Engagement stream(s)	'Preparedness'
Engagement window ('Quality of science' stream only)	Not applicable
Implementation	
Detailed description	The Expert Interview is perfect for sharing knowledge and experiences from a few experts in a dynamic, engaging and participatory way. There are no presentations. Instead, participants are free to ask any relevant questions within the designated topic (based on the area of expertise of the experts). Experts (who may be academics, practitioners, or both) respond directly and can have conversations with participants. Spontaneous questions from participants can often elicit more, and more relevant, knowledge from experts than one-way presentations in which the expert tries to anticipate what s/he thinks the audience wants to know. The open layout of the Expert Interview helps make it less intimidating, and more conducive to participation, than a panel.

	Don't use more than 3 experts. Otherwise the Q&A may become tediously long, and the session will resemble an ordinary panel discussion. There is no limit to the number of participants
Benefits	This is a great way to get subject matter experts to share their knowledge in a less traditional setting.
Risks	
Required tools	Microphones: One per expert, plus 1-2 for participants asking questions Open space or room, large enough to accommodate participants Chairs (see 'Set up the room' below) Pin board (optional) Flipchart sheets and marker pens (optional) Laptop computer (optional) LCD projector (optional)
Timeframe	60 – 90 minutes
Required skills and resources	Facilitator Rapporteur
Comments	The Expert Interview is similar to the Fishbowl. Key differences include that the physical setup for the Expert Interview keeps the experts at the front of the room, and the Expert Interview does not allow experts to leave the discussion and be replaced. The Expert Interview is the face-to-face equivalent of the Online Jam in its Ask Me Anything version.
Useful links	https://www.unicef.org/knowledge-exchange/files/UNICEF_Knowledge_Exchange_Toolbox.pdf http://kstoolkit.org/Expert+Interview
Examples	

Focus group

General outline	
Method	Focus group
Short description	The focus group is a qualitative method which is used to determine the preferences of people or to evaluate strategies and concepts A qualitative method which provides information on attitudes, perceptions and opinions of participants, obtained through an open discussion led by a facilitator. Such purposive sample, rather than a statistically representative sample of a broader population, elicits more in-depth views on a specific topic, which would be more challenging to obtain through a quantitative method (e.g. survey). The method has originally been designed for market research. Participants are selected according to certain characteristics in common that relate to the research topic and are grouped into 8-10 people.
Objective	Generate or evaluate hypotheses and ideas in conjunction with a quantitative method, or as a primary data-collection method.

Target	Researchers, NGOs, Industry, Consumers, Citizens
Geographical scope	European, National, Regional
Online/offline	Offline
Impacts	Consult, Involve
Engagement stream(s)	'Preparedness', 'Quality of science', 'Stakeholder dialogue'
Engagement window ('Quality of science' stream only)	Plan
Implementation	
Detailed description	The focus group is a method is designed to help learning more about community and groups' preferences and opinions. The questions participants are asked are typically qualitative and open-ended, therefore the information is open to interpretation. The answers have depth, nuance, and variety. Group dynamics, interaction and non-verbal communication need also be observed. The focus groups can reveal what the participants are really thinking and feeling, even though their responses may be harder to score on a scale. The 3 main characteristics of the focus groups are: • The group focuses on a specific topic. • There is a facilitator (or trained leader) and his/her job is to keep the group focused on discussing the specific topic. • There is some careful planning behind the group's composition and the group discussion in order to create an environment in which people feel free to talk openly. Some members of the group may need to be encouraged by the facilitator to express their opinions. The focus groups are structured and directed, yet, allowing for the free expressions of opinions by the participants, they can gather a lot of in-depth information in a relatively short time. The method is often used to generate or evaluate hypotheses and ideas. At the end, the information gathered in the discussion should be summarized in writing.
Benefits	More interactive environment and better flow of ideas than in individual interviews. This method can produce deeper insights on the participants' attitudes, ideas and preferences than other methods as it allows for direct observation of the participants' immediate reactions as well as more in-depth discussions on the research topic.
Risks	Due to the small number of participants, the results are not representative for the target group.
Required tools	
Timeframe	Sessions should last around 1 - 2 hours.

Required skills and resources	Requires advanced subject-matter expertise and advanced facilitation skills.
Comments	Currently already used by EFSA for social research. Potentially the use of this method could be expanded.
Useful links	https://ctb.ku.edu/en/table-of-contents/assessment/assessing-community-needs-and-resources/conduct-focus-groups/main
Examples	Examples on how this tool is used by EU agencies: EIP-AGRI

Gamestorming

General outline	
Method	Gamestorming
Short description	A game may be thought of as an alternative to the standard business meeting. A game suspends some of the usual protocols of life and replaces them with a new set of rules for interaction.
Objective	Gamestorming can be used to achieve diverse objectives: • For fresh thinking and new ideas • For teambuilding • For vision and strategic meetings • For problem-solving • For update and review meetings For decision making
Target	Internal staff, researchers, NGOs, farmers and primary producers, distributors, practitioners, consumers
Geographical scope	Local
Online/offline	Offline
Impacts	Involve
Engagement stream(s)	'Preparedness'
Engagement window ('Quality of science' stream only)	Not applicable
Implementation	
Detailed description	If you are a knowledge worker, you must become, to some degree, creative. This may sound a bit scary, but the fact is that successful creative people tend to employ simple strategies and practices to get where they want to go. It is more like a workshop with a set of tools and strategies for examining things deeply, for exploring new ideas, for performing experiments and testing hypotheses, to generate new and surprising insights and results.

	Different games, grouped according to the game objective, can be found here: https://gamestorming.com/
Benefits	Involves stakeholders in a funny way
Risks	A quite innovative approach to creativity is needed; this may not always be accepted in scientific processes
Required tools	Games may require sticky notes, poster paper, markers, random pictures from magazines, or provoking objects.
Timeframe	Most games involve 3 to 20 people and last from 15 minutes to an hour and a half.
Required skills and resources	Gamestorming skills include asking questions (opening, navigating, examining, experimenting, closing), structuring large diagrams, sketching ideas, fusing words and pictures into visual language, and most importantly, improvising to choose and lead a suitable game or invent a new one.
Comments	Could be a format for the Annual Forum of the SEA
Useful links	Book: Gamestorming: A Playbook For Innovators, Rulebreakers, And Changemakers by Dave Gray https://gamestorming.com/about/
Examples	

Gamification

General outline	
Method	Gamification
Short description	Gamification is the application of game-design elements and game principles in non-game contexts.
Objective	Gamification can be used for education purposes, behavioural change purposes, crowdsourcing (for example Foldit game)
Target	Researchers, academia, civil society
Geographical scope	Global
Online/offline	Online and Offline
Impacts	Involve
Engagement stream(s)	'Preparedness', 'Quality of science'
Engagement window ('Quality of science' stream only)	Do, Report

Implementation	
Detailed description	Early gamification strategies use rewards for players who accomplish desired tasks or competition to engage players. Types of rewards include points, achievement badges or levels, the filling of a progress bar, or providing the user with virtual currency. Making the rewards for accomplishing tasks visible to other players or providing leader boards are ways of encouraging players to compete. Another approach to gamification is to make existing tasks feel more like games. Some techniques used in this approach include adding meaningful choice, onboarding with a tutorial, increasing challenge, and adding narrative.
Benefits	• Increase engagement • Gather more data about users for further analysis and use • Use of both, internal and external motivation • Real time feedback • Building relationships with users
Risks	Through gamification's growing adoption and its nature as a data aggregator, multiple legal restrictions may apply to gamification. Some refer to the use of virtual currencies and virtual assets, data privacy laws and data protection, or labour laws. The use of virtual currencies, in contrast to traditional payment systems, is not regulated. The legal uncertainty surrounding the virtual currency schemes might constitute a challenge for public authorities, as these schemes can be used by criminals, fraudsters and money launderers to perform their illegal activities.
Required tools	Gamification software (if online) or materials
Timeframe	
Required skills and resources	IT advanced skills required
Comments	https://en.wikipedia.org/wiki/Gamification
Useful links	Book: Gamestorming: A Playbook For Innovators, Rulebreakers, And Changemakers by Dave Gray https://gamestorming.com/about/
Examples	Examples on how this tool is used by **European agencies:** Center for International Forestry Research - CIFOR Examples on how this tool is used by **European agencies:** The International Center for Tropical Agriculture - CIAT Examples on how this tool is used by **other organizations**: The University of Washington

Group interview with a co-design session

General outline	
Method	Group interview with a co-design session
Short description	The group interview with a co-design session will provide feedback about the research scenarios presented. The proposed group interview

	can be held within one single event or several smaller successive events. Overall, we recommend to engage at least 35 people in this consultation round. 5-8 is the minimum number of participants for one event (if several ones), and to fit around one table. Participants can be participants who would have been involved at a previous step - if any - and new ones, we suggest a balanced setting, in which at least half of the participants are original citizens. We recommend to over-recruit and plan for more than 30 participants to be there, if you are looking to engage at least 30 (in order to consider the no-shows). This method requires to have some steps of the process online instead of offline.
Objective	• Enrich research scenarios • Get feedback to the research scenarios and the opportunity to deepen it through the discussion
Target	Civil society, researchers, academia, policy makers, risk assessors
Geographical scope	EU, international, national, local
Online/offline	Online/offline
Impacts	Involve
Engagement stream(s)	'Quality of science'
Engagement window ('Quality of science' stream only)	Pre-mandate, Report
Implementation	
Detailed description	This method aims at: • Stimulating the discourse and prompting citizens towards enriching the following parts of the Scenarios: state of the art, research questions/direction and expected impact. • Shaping and enriching this content with regard to the call format you are aiming for a policy consultation: specific challenge, scope and expected impact. • Capturing the citizens' views on the scenarios in the most authentic way possible.
Benefits	• Relative simplicity of the method. • The idea of combining participants, who have already participated at an earlier stage of scenario building with new ones on the other hand brings the feeling of continuity and on the other hand – freshness and new ideas. • People feel comfortable and work with big interest in their preferred and chosen scenarios. • It is not an exhausting activity.

	• The results were generated by different groups, so we could see the real picture of what is really interesting for our citizens and what opinion they have. • The method by itself makes the process active, so it was more interesting for citizens.
Risks	• A workshop will be a lot of work for your team and for participants: it needs to be as interesting as it can be. • Limited interactions among the tables: thus participants at the last stage tend to choose the scenario they worked on plus another one, hardly ever considering to choose 2 scenarios they did not worked on. • Results of the prioritization of enriched scenarios are influenced at least by two factors: 1) the presentation skills of a person describing the enriched scenario (not surprising), 2) the fact that some selected scenarios could cover covered similar topics. • Difficult to make sure that unpopular scenarios are not left behind by the participants and that every scenarios as a good chance to go through the entire process.
Required tools	
Timeframe	It is a 6 hours process. You can do an alternative process, which last only for 3 hours.
Required skills and resources	Subject-matter expertise: Basic IT skills: Advanced Facilitation skills: Intermediate Event organisation skills: Intermediate Project management skills: Intermediate
Comments	It could be applied at the beginning of the scientific process (i.e. framing of the question) and at the end (i.e. communication and dissemination)
Useful links	http://actioncatalogue.eu/method/7447#title_skills_required
Examples	This method was applied by the EU funded project CIMULACT http://www.cimulact.eu/

Icebreakers and energizers

General outline	
Method	Icebreakers and energizers
Short description	Icebreakers help establish connections quickly and informally. This sense of connectedness and free communication will help the group achieve the work-related or learning objectives of the event. Icebreakers are especially useful when participants are from diverse cultural, ethnic or organizational backgrounds. When used correctly, icebreakers can also energize the group, highlight participants' particular strengths and subtly introduce themes to be explored later in the event.

Objective	The main objective is to facilitate interpersonal exchange, establish connections quickly and informally and foster participation to make an engagement method more effective
Target	Researchers, Users, Industry, NGOs, CSOs
Geographical scope	Global, European, Local
Online/offline	Offline and online
Impacts	Inform, Consult, Involve
Engagement stream(s)	'Preparedness'
Engagement window ('Quality of science' stream only)	Not applicable
Implementation	
Detailed description	Every event or workshop has participants, but often they don't participate actively enough. Sometimes this is because the event has too many presentations, with 'participants' being put into the role of passive listeners for the most part. But sometimes an event may have plenty of opportunities for participation, but it may start off on the wrong foot with a lengthy speech or 'keynote'. This can have a negative effect on the level of participation. Experienced event facilitators have observed that the first couple of sessions often set the tone for the remainder of an event; if these sessions are non-participatory, then a non- participatory tone is set for the event, and participants will usually behave accordingly. Below a short-list of icebreakers: **Speed Dating:** The Speed Dating (or Speed Networking) icebreaker is best used in meetings or workshops where most people don't know each other. It enables each meeting participant to meet a large number of other participants in a relatively short time. A structured format helps eliminate awkwardness: Participants prepare 1-minute 'elevator speeches' about themselves, then exchange introductions through a simple rotation process. • Requirements: Facilitator, room with large empty space (no chairs or tables), alarm clock/ bell / other audible signal, A4 paper and pens for participants, 20 - 30 participants • Timeframe: 30 - 40 minutes **Four Quadrants:** An active exercise that keeps people on their feet, Four Quadrants is best used in large groups as an initial icebreaker, a means of gradually introducing event themes and topics, or as an after-lunch energizer.

	It can be difficult to mobilize the energy of a large group of participants who don't know each other well, especially when you don't have much time in your event schedule. Four Quadrants is ideal for these situations. By allowing participants to group themselves according to their responses to simple ideas or statements, it gives them an opportunity to identify with others in an easy way, even if they come from very different backgrounds. Normally Four Quadrants begins with participants responding to common leisure or work activities. Participants must choose from among four standard responses, ranging from very positive to negative, hence the 'Four Quadrants'. By progressing gradually to statements about workshop themes or topics, these can be introduced in a subtle way, and gauge participant interest levels and degree of experience. The dynamic nature of Four Quadrants also makes it a great energizer before embarking on long sessions. • Requirements: Facilitator, 4 flipchart sheets, 30 or more participants; room: ideally empty, or with plenty of room for people to move around and gather in corners. • Timeframe: 30 minutes **Walking billboard:** This is an informal way to open a meeting. Participants prepare and wear a personal 'billboard': a sheet of flipchart paper with their name and answers to interesting questions about themselves. They then mingle for a short time; the billboards help catalyze conversations. The Walking Billboard is best used at the beginning of a meeting or workshop. Participants can converse with previously unknown persons more easily thanks to the personal responses (to previously selected, common questions) on the billboards. This exercise strikes a note of informality and, with the paper billboard covering participants' outfits and name tags, helps even out implied hierarchies and cultural barriers. Pre-determined questions: Use this method when time is limited. Instead of asking participants to come up with questions, the facilitator provides 3 - 5 questions at the start of the activity. Participants prepare their billboards right away, and then mingle and converse. • Requirements: facilitator, flipchart paper (one sheet per participant), colour marker pens, 15- 40 participants • Timeframe: 30 minutes **Mistaken identity:** This is a quick and easy way for participants to get to know one other at the beginning of an event. When they first enter the meeting room at the start of the day, participants receive a name card with someone else's name on it, and are asked to mingle and find that person. Use Mistaken Identity when you want a quick icebreaker that does not need much preparation. It can be used effectively in groups of up to around 50 people. As people walk around looking for the person whose name card they are holding, expect them to meet other people and make connections very quickly, with little effort.

	• Requirements: facilitator, large name cards with participant names prewritten in large letters, 20- 50 participants • Timeframe: 10- 15 minutes
Benefits	
Risks	
Required tools	
Timeframe	
Required skills and resources	
Comments	
Useful links	https://www.unicef.org/knowledge-exchange/files/UNICEF_Knowledge_Exchange_Toolbox.pdf
Examples	

Innovation jam

General outline	
Method	Innovation Jam
Short description	Massive online discussion that enables a diverse set of participants to put forward innovative ideas (related to a broad topic) and also to build upon each other's ideas. Given the deluge of ideas, subject-matter experts and moderators as well as technology (e.g., text-analysis tools) must be employed to channel the idea generation and bring coherency to the discussions.
Objective	Identifying innovative and promising "Big Ideas"
Target	Researchers, academia, NGOs, consumers, staff
Geographical scope	Global
Online/offline	Online
Impacts	Involve
Engagement stream(s)	'Preparedness'
Engagement window ('Quality of science' stream only)	Not applicable
Implementation	
Detailed description	Using Web sites, wikis, forums and other online tools, Jam participants generate new ideas. From those ideas, the organizer focuses on several major topics for the second part of the Jam and invited participants to

	build on the ideas within those topics. As a result of this process, 10 distinct ideas are implemented.
Benefits	Facilitates the sharing of different perspectives of the problem, the contribution of ideas, and building upon each other's ideas are needed.
Risks	It holds the risk of attracting a large set of seemingly conflicting ideas that don't lead to a workable solution in a timely manner.
Required tools	Online platform to host the jam
Timeframe	2-3 days
Required skills and resources	Requires advance IT skills.
Comments	IBM https://www.ibm.com/products/innovation-jam
Useful links	Theme analysis and qualitative research must be conducted after the jam to identify major themes and insights, as well as the most promising ideas and concepts. Useful for reflections on AI and other innovation areas.
Examples	Examples on how this tool is used by **International agencies:** UNITED NATIONS Examples on how this tool is used by **others**: IBM – Innovation Jam, Danish Government

Interview

General outline	
Method	Interview
Short description	Interviews are used to explore the views, experiences, beliefs and motivations of individuals on specific matters. Interviews as a qualitative method are believed to provide a more in-depth understanding of a certain topic than would be obtained from purely quantitative methods (for example questionnaires). Interviews are, therefore, most appropriate where: • little is known about the phenomenon under investigation; • detailed insights are required from individual participants. In addition, they are appropriate for exploring sensitive topics, where participants may not want to talk about such issues in a group environment.
Objective	Interviews can be used to explore the views, normative positions, experiences, beliefs and motivations of an individual participant.
Target	Researchers, academia, policy makers, NGOs, industry, consumers
Geographical scope	European, international, national, local
Online/offline	Online/offline
Impacts	Consult

Engagement stream(s)	'Preparedness', 'Quality of Science'
Engagement window ('Quality of science' stream only)	Pre-mandate, Plan, Do
Implementation	
Detailed description	Interviews are a standard way for all kinds of journalists (print, radio, TV and web, as well as freelancers) to collect information. You might also want to conduct interviews yourself with staff members or stakeholders to gather material for recordings or publications. Interviews are normally one-on-one, with a single reporter posing questions to one person. But similar techniques apply to other situations, such as group interviews, panel discussions, debates, and question-and-answer sessions during news conferences. Interviewing techniques: • **Structured interviews** – a list of predetermined questions is asked. There is little or no variation in the questions. There is no scope for follow-up questions to responses. This type of interview is quick and easy to conduct. However, it is hard to collect deep answers through structured interviews. • **Semi-structured interviews (SSI).** This is guided interviewing and listening in which only some of the questions and topics are predetermined; other questions arise during the interview. The interviews appear informal and conversational, but are actually carefully controlled and structured. Using a guide or checklist, the multidisciplinary team poses open-ended questions and probes topics as they arise. New avenues of questioning are pursued as the interview develops. SSIs are a central part of all participatory methods. • **Unstructured** – this interview typically starts with an open question and then develops according to the response given. It can be difficult to manage, and to participate in, as the lack of predetermined interview questions provides little guidance on what to talk about which many participants find confusing and unhelpful. However, being the most explorative type, unstructured interviews might prove the best option when "depth" is needed. • **Types, sequencing, and chains of interviews.** Many types of interviews may be combined in sequences and chains. These include key informant interviews, by asking who the experts are and then putting together a series of interviews; and group interviews, which may be groups convened to discuss a particular topic (focused or specialist groups), groups comprising a mix of people whose different perceptions illuminate an issue (structured groups), casual groups, and community groups.

Benefits	• Useful to obtain detailed information about personal feelings, perceptions and opinions. • More detailed questions can be asked. • High response rate. • Ambiguities can be clarified and incomplete answers followed up. • Interviewees are not influenced by others in the group.
Risks	• Face-to-face interviews can be time-consuming and costly. If available resources are limited, telephone/Skype interviews can be done instead; • Different interviewers may understand and transcribe interviews in different ways.
Required tools	
Timeframe	Time should be allocated for preparing questions for structured or semi-structured interviews. Preparation time can vary greatly depending on the complexity of the topic and the level of expertise of the interviewer. The length of an interview varies as well. One interview typically lasts from around 30 minutes to 2 hours. The length of the interview depends on the complexity of the topic, on the complexity and number of questions asked, on the specific circumstances. Personal interviews would typically last longer than telephone/skype interviews. After the interview, time should be allocated for transcribing the interview and analysing the results.
Required skills and resources	Requires basic subject matter expertise and basic facilitation skills.
Comments	Already in place at EFSA for social research
Useful links	https://www.academia.edu/746649/Methods_of_data_collection_in_qualitative_research_interviews_and_focus_groups
Examples	The Food and Agriculture Organization - FAO, http://www.fao.org/3/W5830E/w5830e08.htm

Most significant change

General outline	
Method	Most significant change
Short description	Most Significant Change is a qualitative and participatory method for monitoring and evaluation. It helps you to monitor and evaluate the performance of your activities through the participatory collection of stories that reflect significant change resulting from activities. The method was originally invented by Rick Davies and has undergone several adaptations.
Objective	• To evaluate an activity, project or programme. • To build ownership among the stakeholders of a project. • To share visions and values.

	• To facilitate a dynamic dialogue when working with diverse outcomes and multiple stakeholders. • To capture "hard to capture" data about changes in hearts and minds.
Target	Researchers, NGOs, CSOs, risk assessors, academia
Geographical scope	European, International
Online/offline	Online/offline
Impacts	Inform, Consult, Involve
Engagement stream(s)	'Preparedness'
Engagement window ('Quality of science' stream only)	Not applicable
Implementation	
Detailed description	The Most Significant Change (MSC) technique, invented by Rick Davies, is a form of participatory monitoring and evaluation. It involves the collection and selection of stories of change, produced by programme or project stakeholders. MSC can be used in projects and programmes where it is not possible to precisely predict desired changes beforehand, and is therefore difficult to set pre-defined indicators of change. MSC is normally used as an ongoing monitoring technique, assessing change throughout the lifetime of a programme or project. However, its focus on change (outcome and impact) means it can easily be adapted for use in evaluations as well. MSC is most useful where: • it is not possible to predict in any detail, or with any certainty, what the outcome of a project or programme will be; • outcomes vary widely across beneficiaries; • there is no agreement between stakeholders on which outcomes are the most important; • interventions are expected to be highly participatory. As with any Monitoring and Evaluation (M&E) methodology, MSC can be used to help plan future activities. However, it is not a planning tool, and is only normally used within a project or programme once enough time has elapsed for change to have occurred. The Most Significant Change technique involves the participatory collecting of stories. • Anecdotes are collected from stakeholders with a focus on change that has happened as the result of an activity, project or programme. • A systematic selection of the stories is then made, with a slight bias in favour of success and impact.

	• Based on this selection, the actors involved in the evaluation exercise start in-depth discussions on project impact and about the value of the reported changes. • While the Most Significant Change (MSC) technique produces stories suited for monitoring and evaluation, many of the stories that come up can be used for other purposes as well (such as communication, advocacy, and planning). Stories can be collected before a face-to-face workshop, and during the event itself the stories and lessons learned can be discussed. The stories collected through this method can also feed into manuals and guidelines to illustrate guidance with experiences and examples.
Benefits	• MSC can be used to monitor and evaluate projects or programmes that do not have predefined outcomes and cannot therefore be monitored or evaluated using pre-defined indicators. • For the same reason, MSC is better equipped to handle unexpected change than many other methodologies. • MSC is a participatory technique that helps to identify changes in people's lives from their own perspectives. This helps projects and programmes understand how changes are seen through the eyes of different stakeholders. • MSC encourages analysis as well as data collection. Individuals must explain why they believe one change is more important than another. This helps contribute to the learning process. • MSC requires no special professional skills to develop and administer. • Unlike some other methodologies, project and programme staff often feel comfortable experimenting with MSC even if they have no previous experience or training.
Risks	• MSC is not designed to access information on predicted, quantifiable indicators, and is therefore less appropriate for capturing expected change across large numbers of stakeholders. • MSC is not designed to provide comprehensive information about the changes brought about through a project or programme. Where assessment of typical change is needed, MSC needs to be complemented by other methodologies. • MSC may require considerable resources and different sets of stakeholders to be re-visited at regular intervals. As with any participatory methodology, MSC can be very time-consuming if done properly. • MSC is not always very good at accessing information on negative changes. • As with any tool or methodology there are a few potential biases. These include the bias towards stories of success, bias towards those who are good at telling (or writing) stories, and subjectivity in the story selection process. There are ways to

	overcome all of these biases, but they need to be recognised if they are to be addressed
Required tools	
Timeframe	
Required skills and resources	Get support from senior management and assign someone to lead the entire process
Comments	Instead of a one-time application it might be interesting to run several cycles of the technique. This method could be used to learn lessons on the participatory methods that have been put in place during the lifecycle of a mandate (to run after an opinion is adopted). However, the reflection would be on the process (i.e. if the engagement methods put in place were successful or not), but not on the quality of the scientific output itself. For example, it could be used to assess the success of a pilot.
Useful links	https://www.intrac.org/wpcms/wp-content/uploads/2017/01/Most-significant-change.pdf https://europa.eu/capacity4dev/file/28239/download?token=lWZXyl9R
Examples	http://agris.fao.org/agris-search/search.do?recordID=QW2016000489

Online jam

General outline	
Method	Online Jam
Short description	An Online Jam is a virtual gathering to exchange ideas and views on a predetermined topic, or to ask questions to a panel of experts. The interaction takes place at a specific time, usually for about one - two hours, on a social network platform – either an enterprise (internal) platform such as Yammer (where these events are called YamJams), or a public (external) platform such as Twitter (Twitter Chats or Tweet Jams). Discussion takes place via text posts, sometimes with images or files attached; audio and video are not normally used.
Objective	Exchange ideas, ask questions on an online platform
Target	Researchers, Users, Industry, NGOs, CSOs
Geographical scope	Global, European, Local
Online/offline	Offline and online
Impacts	Consult, Involve
Engagement stream(s)	'Preparedness'
Engagement window ('Quality of	Not applicable

science' stream only)	
Implementation	
Detailed description	There are two basic types of Online Jam. The first is for members of a team or community who are geographically separated. The Online Jam allows quickly gathering their inputs and holding a brainstorming session. The second type of Online Jam is called an 'Ask Me Anything' (AMA) session. It involves one or more experts, or persons with unique experiences/insights, responding to questions from interested participants, in real time. AMAs are becoming increasingly popular because they offer an easy way for participants to interact directly with experts and ask them whatever they want. An Online Jam is different from a Skype/Lync meeting: In an Online Jam, all inputs are documented in writing so the record can be easily shared afterwards without the need for someone to take minutes or listen to a recording. An Online Jam is also different from an E-Discussion: An Online Jam takes an hour or two, and all participants are present at the same time. By contrast, an E-Discussion takes place over days or weeks, with participants contributing on their own schedules. The output of an Online Jam is a record of all questions, answers and discussion, copied directly from the social networking platform and sometimes lightly edited for grammar and spelling (but not changed in substance). In addition, the facilitator can prepare a discussion summary to distil long conversations into a shorter format. The record of an Online Jam can serve as a reference and/or as a basis for planning and implementing related projects/ initiatives. Online Jams are good when you need to gather ideas quickly and get a team focused on a particular activity or initiative. If you need deep reflection on challenges or issues, e.g. in order to develop policy or refine guidance, then an E-Discussion may work better. Refer to 'E- Discussions' in this Toolbox for more information. Ask Me Anything sessions are useful for quickly getting answers from experts to lots of questions– sometimes more questions and answers than face- to-face meetings of the same duration. They also allow participants to interact directly with experts, without having to fly everyone into the same location. An expert can be anyone with relevant experience and insights from theory and practice concerning a relevant topic, someone well-known in a particular field, or even a person who has just completed a particularly interesting/important project or assignment. Participation in an AMA session may be open to anyone in an organization, to staff from multiple organizations, or even to the public. Facilitators of an Online Jam or AMA need to be very familiar with the platform, and all participants, including any experts, need to have at least basic familiarity. Facilitators should be able to identify the key points of an online conversation, and summarize them quickly, in order to effectively guide the session. Participants: from 10 to 100 or even more.

Benefits	Online Jams are useful for quickly generating ideas and sharing views among members of a team or community. They allow interaction across distances without travel costs, and if well-run they are efficient for addressing lots of topics and for capturing the responses in text on the platform. As a secondary benefit, they also help familiarize team members with using online discussion platforms.
Risks	
Required tools	Enterprise social network platform (e.g. Yammer) or public social networking platform (e.g. Twitter)
Timeframe	10 - 20 minutes (approx. 5 minutes 'buzzing', and 5 - 15 minutes to share feedback in plenary)
Required skills and resources	Facilitators: minimum two; the more participants expected, the more facilitators there should be. Optional (for an Ask Me Anything): one or more experts/persons to answer participant questions
Comments	Online Jams are good when you need to gather ideas quickly and get a team focused on a particular activity or initiative. If you need deep reflection on challenges or issues, e.g. in order to develop policy or refine guidance, then an E-Discussion may work better.
Useful links	https://www.unicef.org/knowledge-exchange/files/UNICEF_Knowledge_Exchange_Toolbox.pdf
Examples	

Online Platform

General outline	
Method	Online platforms
Short description	Online platform designed to share relevant information and get real-time feedback from relevant communities and experts. Online platforms can include discussion forums. Platforms to meet experts, join Focus Groups activities, discover good practices. The platform can also be used to collect and share data.
Objective	Canvas opinions while developing publications and other content; share ideas; find documents and resources; share good practices. Enabling knowledge sharing and communication among selected stakeholder groups. Sharing of data.
Target	Selected stakeholder groups
Geographical scope	Global
Online/offline	Online
Impacts	Involve
Engagement stream(s)	'Preparedness', 'Quality of science', 'Stakeholder dialogue'

Engagement window ('Quality of science' stream only)	Pre-mandate, Plan, Do, Verify, Report
Implementation	
Detailed description	
Benefits	
Risks	
Required tools	
Timeframe	
Required skills and resources	
Comments	
Useful links	
Examples	European Union Aviation Safety Agency - EASA, European Cooperative Programme for Plant Genetic Resources (ECPGR), The Food and Agriculture Organization - FAO

Online Survey

General outline	
Method	Online Survey
Short description	Online surveys are web-based forms which are used to gather information from staff, stakeholders, constituents or the general public.
Objective	Consult staff, partners, advisors, and a wider stakeholder public. They provide an anonymous and democratic way of gathering opinions and views. Specific objectives: • To solicit inputs from stakeholders • To assess needs in a given area as a basis for future work or planning • To evaluate events • To increase transparency and participation in decision-making processes • To assess needs and requirements (before the activity) • To evaluate impacts (after the activity)
Target	Researchers, CSOs, Users, Industry, consumers, citizens
Geographical scope	Global, European, local
Online/offline	Online
Impacts	Inform, Consult, Involve

Engagement stream(s)	'Preparedness', 'Quality of science', 'Stakeholder dialogue'
Engagement window ('Quality of science' stream only)	Pre-mandate, Plan, Do, Verify, Report
Implementation	
Detailed description	Stakeholder surveys are a questionnaire-based quantitative tool, most often used by projects or organisations to increase their understanding of the knowledge, attitudes, perceptions, interests and experiences of their stakeholders – both internal and external. Findings are used to make improvements in the delivery of programmes and/or services. Conducting a stakeholder survey involves several steps: • Defining the objectives of the stakeholder survey • Stakeholder Mapping • Sampling of stakeholders for the survey • Selecting or designing the survey instrument • Survey implementation • Data entry and analysis • Presentation of findings and recommendations for actions • Follow-up
Benefits	Online surveys allow for fast analysis of results and reduce the errors, which often result from collecting information from individuals or "by hand". However, while online tools make it easier to distribute surveys and collect data, the design of surveys and polls is the most important success element and is not technology dependent. Engaging stakeholders in the monitoring and evaluation process not only enhances the quality, scope and the depth of the survey but also yields findings that are useful, relevant and credible. Other benefits: • Useful to collect and collate quantitative data. • Data can be used to compare results from another period of time or against different stakeholder groups. • It is a quick and cost-effective way to communicate with large groups of people.
Risks	Online surveys hold the risk of attracting a large set of seemingly conflicting ideas that don't lead to a workable solution in a timely manner. Other risks: • Surveys are usually not useful to identify reasons behind stakeholder opinions. • They are less suitable for exploring complex topics or the attitudes of the interviewee. • They are not as effective in establishing community relationships or developing dialogue. • Response rates addressing broader audiences may be limited, survey rates are often less than 20%. • Time consuming: Surveys in general, and stakeholder surveys in particular, can be very time consuming and may therefore

	adversely affect the level of motivation and interest of the stakeholders in the evaluation process. • Expensive: Stakeholder surveys are an expensive proposition. The choice of the data collection method is therefore vital. • Stakeholder accessibility: When stakeholder groups are geographically dispersed, when the organization in question is yet to gain familiarity with stakeholders or when privacy issues arise, it may be difficult to gain access to stakeholders. • Stakeholder indifference: Stakeholders may lack interested or motivation to participate in the survey process.
Required tools	They can be created using free tools, such as Google forms, which tend to have various limitations and/or advertising. Alternatively, you can create online surveys with fee-based tools such as Survey Monkey, SurveyLab, Peakon, Zoomerang. EU Survey.
Timeframe	2 weeks-1 month for the design phase. The timeframe of the engagement activity (filling in questionnaires, analysis, feedback) depends on the scope of the surveys
Required skills and resources	IT tool, IT manager, data analyst
Comments	Already in place at EFSA
Useful links	https://www.civicus.org/documents/toolkits/PHX_H_Stakeholder%20Survey.pdf
Examples	The Food and Agriculture Organization - FAO, Consultative Group for International Agricultural Research - CGIAR FAO FSN Forum survey 2015: Linking your knowledge to policy decisions (http://www.fao.org/fsnforum/activities/online-surveys)

Open innovation challenge

General outline	
Method	Open innovation challenge
Short description	Crowdsourcing competition to engage citizen-solvers in prize competitions for top ideas and concepts as well as breakthrough software, scientific and technology solutions that help solve specific problems.
Objective	Engaging a diverse and broad spectrum of people whose skills, talents, and knowledge are key to solving problems and driving innovation.
Target	Civil society, researchers, farmers, experts
Geographical scope	Global
Online/offline	Online
Impacts	Involve

Engagement stream(s)	'Preparedness', 'Quality of science'
Engagement window ('Quality of science' stream only)	Do
Implementation	
Detailed description	
Benefits	
Risks	
Required tools	
Timeframe	
Required skills and resources	
Comments	
Useful links	
Examples	

Nominal group technique

General outline	
Method	Nominal group technique
Short description	Structured problem-solving or ideas-generating activity in which individuals' ideas are gathered and combined in a face-to-face, nonthreatening group environment. The process is intended to promote creative participation in group problem-solving. Each member of the group is invited to express their opinions that are used to generate a list of priorities. Members may be asked to vote or rank priorities from the list either formally or informally. The voting process may occur multiple times.
Objective	Nominal group technique is designed to promote the free exchange of opinions and the generation of a list of priorities in a structured and non-hierarchical discussion forum (maximizes creative participation and ensures balanced output while utilizing each participant's experience and expertise to reach consensus on complex topics). The purpose is to provide structure to a group discussion when the group is facing the challenge of reaching agreement on complex topics.
Target	Researchers, Industry, NGOs, other communities of interest
Geographical scope	European, International

Online/offline	offline
Impacts	Consult, Involve
Engagement stream(s)	'Quality of science'
Engagement window ('Quality of science' stream only)	Pre-mandate
Implementation	
Detailed description	Nominal group technique (NGT) is defined as a structured method for group brainstorming that encourages contributions from everyone and facilitates quick agreement on the relative importance of issues, problems, or solutions. Team members begin by writing down their ideas, then selecting which idea they feel is best. Once team members are ready, everyone presents their favorite idea, and the suggestions are then discussed and prioritized by the entire group using a point system. NGT combines the importance ratings of individual group members into the final weighted priorities of the group. Use NGT when: • State the problem, question, or issue that is the subject of the brainstorming and ensure that everyone understands. • Each team member silently thinks of solutions or ideas that come to mind when considering the problem and writes down as many as possible in a set period of time (5 to 10 minutes). • Each member states aloud one idea. The facilitator records it on the flipchart. - No discussion is allowed, not even questions for clarification. - Ideas given do not need to be from the team members' written lists. Indeed, as time goes on, many ideas will not be found on their original lists. - A member may "pass" his or her turn and may then add an idea on a subsequent turn. - Continue around the group until all members pass or until an agreed-upon length of time. • Discuss each idea in turn. Wording may be changed only when the idea's originator agrees. Ideas may be stricken from the list only by unanimous agreement or when there are duplicates. Discussion may clarify meaning, explain logic or analysis, raise and answer questions, or state agreement or disagreement. The group may also combine ideas into categories. • Prioritize the recorded ideas in relation to the original question using multi-voting or list reduction. Typically, the solution with the highest total ranking is selected as the final decision. Other variations include estimating the amount of work required to implement each solution by assigning it a point value; the higher the point value, the more work involved.

Benefits	• Many ideas are generated – obviously the more ideas that are generated the wider the range of options the group will have on which to decide. • The technique is useful for identifying problems, exploring solutions and establishing priorities. • It encourages everyone to contribute and prevents people from dominating the discussion. • The written generation of ideas encourages the commitment of participants in taking part in the planned action.
Risks	• Does not resolve differences of opinion, as the primary purpose of the discussion is clarification • The ideas may be ill informed or impractical – it must be explained that the process being carried out is not being done so in a hypothetical sense but is a realistic problem requiring realistic solutions. • The Nominal Group Technique is a good stand-alone technique for simple issues but must be combined with other approaches where the issue is more complicated or affects people outside the sphere of influence within the group. • Participants need to be able to read and write. • Group members have to make themselves available for the required time.
Required tools	Paper and pen or pencil for each individual, flipchart, marking pens. Venue and catering
Timeframe	4 hours
Required skills and resources	Facilitator(s) Staff time for pre-planning
Comments	https://www.ncbi.nlm.nih.gov/books/NBK62556/ https://asq.org/quality-resources/nominal-group-technique
Useful links	https://www.intrac.org/wpcms/wp-content/uploads/2017/01/Most-significant-change.pdf https://europa.eu/capacity4dev/file/28239/download?token=lWZXyl9R
Examples	

Participatory design

General outline	
Method	Participatory design
Short description	Participatory design can be done together with citizens concerned about a certain issue (e.g. the environment). The starting point is consultation with individuals and community organisations. This is followed by an interactive design process which includes field tests with the users of the developed technologies and devices.

Objective	It successfully involves the stakeholders, designers, researchers, and end-users in the design process to help ensure that the end product meets the needs of its intended user base.
Target	Researchers, CSOs, citizens, users, consumers
Geographical scope	Regional, local
Online/offline	Online
Impacts	Involve
Engagement stream(s)	'Preparedness', 'Quality of science'
Engagement window ('Quality of science' stream only)	Pre-mandate, Plan, Do
Implementation	
Detailed description	Participatory design sessions are simple exercises in which we give our users the tools to create and design mockups of software or products they would love to use in the "perfect world" scenario while also asking them to explain why they built their perfect software or a product in that way. From observing their building process and listening to their explanations on why they built something in this or that way, we learn a lot of the things we wouldn't through a mere interview with the user.
Benefits	Participation in design process can lead to a more effective design outcome, because the knowledge and needs of the user are integrated throughout the process. This helps to avoid misinterpretation or misunderstandings between designer and user. When participants invest their time in a project, they are more likely to continue caring about the project after it finishes: this can result in them taking initiative on maintenance and improvements. Participation can also lead to social outcomes such as empowerment, skills development, and increased confidence.
Risks	Co-creation is a fragile process which requires a lot of attention to truly listen and be sensitive. It requires excellent facilitation and a participatory mind set to be effective. Product development is an intensive process in resources. The added costs and benefits of doing this in a participatory way are difficult to discern.
Required tools	Consultation; Workshops; Design Workbooks (interaction design, research through design, ideation).
Timeframe	Could be used over years
Required skills and resources	Subject-matter expertise: Advanced IT skills: Advanced Facilitation skills: Intermediate

	Event organisation skills: Intermediate Project management skills: Intermediate
Comments	http://actioncatalogue.eu/method/7427 http://kateferguson.org/documents/Participatory-Design-Handbook.pdf
Useful links	https://www.intrac.org/wpcms/wp-content/uploads/2017/01/Most-significant-change.pdf https://europa.eu/capacity4dev/file/28239/download?token=lWZXyl9R
Examples	www.ecdc.ac.uk

Participatory modelling

General outline	
Method	Participatory modelling
Short description	Focus groups are useful for gaining insight into various viewpoints on issues. In Integrated Assessment Focus Groups, separate sessions are organised where participants interact with computer models to gain insight into the effects of interventions on complex systems. The use of computer models during a focus group has certain advantages. These Integrated Assessment models serve as tools for analysing complex issues, such as climate change, together with citizens.
Objective	Purposeful learning process for action that engages the implicit and explicit knowledge of stakeholders to create formalized and shared representation(s) of reality
Target	Researchers, citizens
Geographical scope	National, regional, local
Online/offline	Offline
Impacts	Consult
Engagement stream(s)	'Preparedness', 'Quality of science'
Engagement window ('Quality of science' stream only)	Pre-mandate, Plan
Implementation	
Detailed description	Focus groups are useful for gaining insight into various viewpoints on issues. This has been described in detail in a separate fact sheet. In Integrated Assessment Focus Groups, separate sessions are organised where participants interact with computer models to gain insight into the effects of interventions on complex systems. The use of Integrated Assessment (IA) models during a focus group has certain advantages. These models serve as tools for analysing complex issues by including

	expert input. This is given both in face-to-face interaction, and by inviting the participants to interact with scientific models with a user-friendly computer interface. The participants get a feeling for the effects of all types of interventions in complex systems, and the potential results are predicted by underlying numerical models. This has been described in detail in the chapter 'Citizen interaction with computer models' (Dahinden et al., 2003). When looking at climate change models four complexity dimensions are recognised: • Spatial – there are links between local activities and global influences and vice versa; • Temporal – there are both short term and long-term perspectives which are very relevant; • Uncertainties – in the assumptions on cause and effect in the systems; • Policies – of different entities across the world which influence the system strongly. The use of IA models helps to cope with these complexities simultaneously. When building the models knowledge from various disciplines is integrated and is used to predict cause and effect of a large number of variables. A lot of work on the Integrated Assessment Focus Group has been specifically designed for climate change but the method can be also applied in other areas.
Benefits	High degree of ownership and motivation towards change for the people involved in the modeling process. It also helps to develop more acceptable solutions and often creates more consensus among the stakeholders involved.
Risks	• If the model guides the discussions too much, it can limit the discussions based on the assumptions behind the model. • Some users in IA Focus Groups expected gaming environments and were frustrated by complex interfaces. • If a model has not been designed for lay people it will be necessary to offer continual technical assistance. • Participants learn more from systems which reveal some of the intermediate results and allow users to understand relationships between variables. • For the process to have results, the users need to trust the models and the experts supporting the process
Required tools	
Timeframe	A common time frame for the IA Focus Groups is 5 sessions of 2.5 hours over several days.
Required skills and resources	Subject-matter expertise: Intermediate IT skills: Advanced Facilitation skills: Intermediate Event organisation skills: Intermediate Project management skills: Intermediate
Comments	Advanced combination of participatory design and focus groups.

Useful links	http://owsgip.itc.utwente.nl/projects/complex/images/uploaded_files/D63_Voinov.pdf
Examples	

Participatory sensing

General outline	
Method	Participatory sensing
Short description	Participatory sensing projects involve volunteers in the gathering of data for research. This process is facilitated with ICT platforms which often include the use of hand-held devices such as smartphones. This is one of the methods which is used within various forms of Citizen Science.
Objective	Gathering data for research
Target	Researchers, citizens
Geographical scope	EU, international, national, regional, local
Online/offline	Online
Impacts	Involve
Engagement stream(s)	'Preparedness', 'Quality of science'
Engagement window ('Quality of science' stream only)	Do
Implementation	
Detailed description	**Roles of participation** The core activity of the volunteers in the project is the gathering of data, usually at a specific location and sometimes also at a specific time. The platform needs to facilitate the easy submission of data to a central location. Other possible roles of citizens can be in analyzing the data. Sometimes this only concerns their own data but it can also relate to the whole dataset or a subset in which they are personally interested. There are also examples of projects where Civil Society Organizations are involved in the project definition of a project and also involve their own members in the execution. In general, there are often benefits for the volunteers, which can be in the form of increased knowledge of the subject matter. **Infrastructure and tools** There are large variations among the types of participatory sensing projects. An important distinction is to what extent at the start of the project the tools are already available for the data collection. In some

	projects the tools have been developed from scratch and subsequent projects have a much shorter lead time and lower investment of time and money. For example, the tools developed in the original NoiseTube project in Paris have been published with an open source license and other parties are encouraged to organize their own participatory noise mapping projects with the open framework.
Benefits	Cost effective data collection and presentation; Engaging citizens (or other stakeholder groups, such as affected employees) in research on (local) challenges. Access to free or cheap publicity/dissemination.
Risks	A potential weakness is the quality assurance of the collected data. Research has already been done on the quality of large volumes of data of cheap sensors and volunteers compared to other data collection approaches with more expensive sensors by professionals, but smaller data volume. See for example research done for the NoiseTube tools. Investment in platform development and infrastructure, including relations with participants, can be slow and large. Once the infrastructure has been implemented it can be a source of 'big data'. Keeping volunteers connected and active in the project has proven to be an obstacle for some projects. There are various motivations for participating in scientific research. Often within one project there can also be multiple motivators which vary across the 'crowd' of volunteers which contribute to a crowd sourcing project.
Required tools	
Timeframe	The complexity of data collection activities varies with the different systems. Some require very little user training or instruction and can be applied in a one-time event. On the other hand, some may be more complicated and require multiple data capture moments and more user training. Most systems require a significant amount of time for the development of the platform. Follow-up projects, or projects using existing tools, will then usually have shorter lead times.
Required skills and resources	Subject-matter expertise: Intermediate IT skills: Advanced Facilitation skills: Intermediate Event organisation skills: Basic Project management skills: Intermediate
Comments	
Useful links	https://en.wikipedia.org/wiki/Participatory_sensing https://dl.acm.org/doi/10.1145/1979742.1979768
Examples	www.energysense.nu http://www.noisetube.net/index.html#&panel1-1

Participatory workshops

Participatory workshops are meetings that help participants analyse, share and enhance their knowledge to plan, manage and evaluate development projects and programmes.

Visual aids – such as mapping, videos, illustrations, timelines, card sorting and ranking, Venn diagrams, seasonal calendar diagramming and body maps - are often used to engage participants and capture knowledge.

Workshops may be organised in several formats. The most widely used variants are outlined below.

Fishbowl

General outline	
Method	Fishbowl workshop
Short description	A fishbowl conversation is a form of dialogue that can be used when discussing topics within large groups. Best used in conferences and workshops, the Fishbowl focuses the entire group's attention on a discussion among 3 - 6 people. Other people present become observers, active listeners, and potential participants through a rotation process, which reduces the distance between speakers and audience. Fishbowl facilitation is a simple, effective alternative to a plenum discussion. In combining large group facilitation with small group discussions, fishbowl creates a vivid and spontaneous discussion format. The Fishbowl facilitation got its name from the way the participants are seating. The chairs are placed in two circles: the inner circle ("fishbowl") and one or more outer circle(s).
Objective	Facilitating dialogue between experts in a way that exposes others to their knowledge while expanding the collective understanding of a subject. This method is used to foster dynamic participation, avoiding lengthy presentations.
Target	Academia, NGOs, farmers and primary producers, business and food industry, distributors, practitioners, policy makers, consumers
Geographical scope	European, International, local
Online/offline	offline
Impacts	Consult, Involve
Engagement stream(s)	'Preparedness', 'Quality of science', 'Stakeholder dialogue'
Engagement window ('Quality of science' stream only)	Pre-mandate, Plan, Do
Implementation	
Detailed description	Fishbowls involve a small group of people seated in the inner circle, having a conversation in full view of a larger group of listeners. The participants in the inner circle discuss the topic(s) while all other participants seating in the outer circles(s) listen and observe the discussion.

	• Identify 3-6 experts (or participants who have experience) on the issue to be discussed. • Brief the experts/participants on the Fishbowl process. Set up a small circle of chairs surrounded by a larger circle, with 3 or 4 additional chairs to facilitate mobility. • Open the session with the experts in the centre circle. • Explain the process, the objectives and the issue that will be discussed. You can opt for one of the two types of Fishbowl: open or closed. An **open fishbowl** contains several empty chairs in the centre circle from the outset. Any member of the audience can join the discussion by occupying an empty chair at any time. A "fish" must voluntarily leave the centre circle to free a chair. The discussion continues with participants frequently entering and leaving the Fishbowl. Participants can have more than one opportunity to move into the inner circle. In a **closed fishbowl**, the facilitator splits the participants into two groups (or more as needed) and assigns the role of speakers to one group, and the role of observers to the other. The initial participants in the inner circle speak for some time about the chosen subject. When time runs out (or when no new points are added to the discussion), the first group of participants leaves the fishbowl and a new group from the audience enters. The new group continues discussing the issue. This may continue until all audience members have spent some time in the fishbowl. The closed fishbowl approach is only appropriate when all participants have at least some level of knowledge about the subject. The outer circle must always observe silently, and this principle should be enforced diligently by the facilitator. Participants in the outer circle can prepare questions and comments so that they are ready to move into the inner circle. Once the topics or the time allocated have been covered, the facilitator should summarize the discussion and open the floor for a debriefing, after removing the inner circle of chairs. During the debriefing, review key points, interesting comments and the group's feelings regarding particular issues. Participants must be allowed to develop conclusions and express themselves freely. Providing the participants with an overview document of the lessons learned and a list of key resources can be helpful after the exercise has ended. A **Feedback Fishbowl** is a variation which systematizes interaction between the inner and outer circle. The "fish" discuss the issue for 15 minutes, then turn their chairs around to face the outer circle. The outer circle puts their comments and feedback directly to the "fish" in front of them. Then members of the inner circle again face the centre and incorporate the new information into the conversation (while the outer circle remains silent). After the conclusion of this round, the two groups change places, and the process is repeated. Another variation is to invite people with similar opinions or experiences to sit in a **Homogeneous Fishbowl**. This arrangement aims to provide the outer circle with evidence and logic to support a cohesive perspective. This helps to avoid wasteful disagreements at the early stages of the discussion and creates clear concepts for debate.

	In contrast to the previous variation, in a **Heterogeneous Fishbowl**, one person from each divergent viewpoint is invited to sit in the fishbowl. The debate must be carefully managed by the facilitator to ensure that it is productive and examines the full variety of opinions equally. **Multiple Fishbowls** are ideal for addressing issues with large groups, or for cases when there are language barriers between participants. Assign a moderator to each fishbowl to provide clear instructions as well as support throughout the exercise. After the first discussions, representatives from each fishbowl form a new central fishbowl, and continue the conversation. According to the composition of the group, decide if the debriefing would be more effective in the large group or back in the original multiple fishbowls. Ensure that each moderator records the reflections so that these can be shared in a resource for all the participants. **Roleplays** can be conducted in closed fishbowls. Divide participants into as many groups as the number of roles you have prepared. Each group then prepares a role, although only one of their members will play it. The roleplay is then held in the middle of the room while the other participants observe from outside. After the roleplay, close the session with a debriefing. If the debriefing takes longer than the roleplay, it means the exercise was thought-provoking.
Benefits	Reduces distinctions between the speakers and the audience. This method is alternative to traditional debates. It could be a valid substitute for panel discussions, allows to foster dynamic participation and address controversial topics.
Risks	More reserved groups may require encouragement to take up a place in the inner circle. This can be helped by well-formulated objectives and introductions to the subject matter.
Required tools	Open space or large room with enough space for participants to move around easily. One chair for every participant (plus three or four empty chairs). Flip chart and markers for the note-taker. Microphone(s) (optional)
Timeframe	From 1 hour and a half to 3 hours. Suggestion on the break-down of activities for a 1h30 session: • Introduce the method and the objectives/guiding questions of the discussion (10 minutes) • Fishbowl discussion (1 hour) • Debriefing (20 minutes) • Introduce the method and the objectives/guiding questions of the discussion (10 minutes) • Fishbowl discussion (1 hour) • Debriefing (20 minutes).
Required skills and resources	1 or more facilitators to stimulate the discussion. Support team Optional: Rapporteur

Comments	If the outer circle participants want to make more contributions after the fishbowl session has ended, open a blog, wiki or discussion forum to continue capturing their comments, reflections and questions.
Useful links	https://www.unicef.org/knowledge-exchange/files/Fishbowl_production.pdf http://acnudh.org/wp-content/uploads/2011/11/slitoolkit.pdf
Examples	https://experience.sap.com/skillup/fishbowl-a-user-research-method-for-future-scenarios/ http://www.genresbridge.eu/fileadmin/templates/Genres/Uploads/Documents/GenRes_Bridge_Sharing_Perspectives_workshop_report.pdf

Innovation Challenge

General outline	
Method	Innovation Challenge Workshop
Short description	Structured method to analyse specific topics, get hands-on experience on practical cases and incorporate stakeholders'/experts opinions
Objective	Fostering knowledge and best practices exchange. Case-driven innovation. Share ideas and start discussions. Best Practices Sharing.
Target	Researchers, NGOs, farmers cooperatives
Geographical scope	National
Online/offline	Offline
Impacts	Inform, Consult
Engagement stream(s)	'Preparedness'
Engagement window ('Quality of science' stream only)	Not applicable
Implementation	
Detailed description	• Thematic paper: production of a thematic paper on the topic of the workshop (e.g. regulation, fresh food, technology); • Organisation of site visits (e.g. agriculture enterprises "best practices") • Thematic conferences with policy makers and experts on the topic to present future scenarios/challenges and future development of the workshop topic
Benefits	Direct learning from real case examples, foster bottom-up innovation, practice-based discussions.
Risks	High weight of local context (which may hamper replicability)

Required tools	Flipcharts, post-its, presentations, Slido/Mentimeter.
Timeframe	1 full day
Required skills and resources	Workshop moderation, language, deep knowledge of the topic
Comments	https://ec.europa.eu/eip/agriculture/en/event/skin-innovation-challenge-workshop
Useful links	https://www.unicef.org/knowledge-exchange/files/Fishbowl_production.pdf http://acnudh.org/wp-content/uploads/2011/11/slitoolkit.pdf
Examples	

Knowledge Fair

General outline	
Method	Knowledge Fair (or Share Fair) workshop
Short description	An event designed for sharing large amounts of information from numerous expert sources at a common venue with the help of visual aids and displays. A number of well thought out formats such as chat shows and market places are used. Whether discussing topics within large groups through fish bowls or world cafés or brainstorming in mind mapping exercises, these formats encourage interaction and learning among participants.
Objective	A face-to-face method to: • share experiences • promote best practices • understand peer perspectives • provide a networking platform • empower people • solve problems
Target	Consumers, researchers, NGOs, risk assessors, academia
Geographical scope	European, International, Local
Online/offline	Offline
Impacts	Inform, Involve
Engagement stream(s)	'Preparedness'
Engagement window ('Quality of science' stream only)	Not applicable

Implementation	
Detailed description	A knowledge share fair is a buzzing, interactive and collaborative workspace, with lively discussions and practical demonstrations. There are facilitated sessions to learn how others have improved the effectiveness and quality of their work, and opportunities for networking, allowing people to connect and link ideas as well as exchanging opinions in a natural way and relaxed setting. A share fair is not a goal itself, but the beginning of a process. It will create new partnerships; new exchanges between people that would like to work together, in a different way. Events such as a share fair, that include the application of knowledge sharing tools and methods, encourage interaction and thus need careful planning. Even though a fair aims at spontaneous and informal exchange of ideas, improvisation should reside in the flow of thoughts and content, not in the approach. • Advance preparation is required for any Knowledge Fair, particularly if travel is involved. • Identify key objectives and outline the major themes for the contributors to explore. • Invite relevant actors, institutions and individuals to participate. Include people from diverse groups with different backgrounds, to contribute to the complexity of ideas. • Provide practical guidelines and individual assistance and allow time for participants to create their displays in advance. • Standardized templates and display equipment will minimize visual distractions and maximize the amount of information that is absorbed and retained. • Select a site for the fair in a high-traffic area, to attract as many visitors as possible. This has to be done well in advance. • Ensure that support is available early enough to assist the presenters in setting up their displays. • Identify in advance who will require power supplies, projectors or other special equipment for their presentations. • Publicize the fair as widely as possible, using methods appropriate to the target audience. • Arrange to have technicians on hand, as well as access to a secretariat, should anyone require logistical support. • Ensure that interested parties have barrier-free access to the fair, and sufficient time to explore. • Record the progress and reflections in "real time" using discussion forums, blogs, or social networks. • Collect the relevant documentation and end-of-activity reports in a central location for accessible future reference The different types of sessions that can be organized are: plenary sessions, discussion sessions, projections, screenings (clips, videos, slide shows...), video sessions, poster sessions, training sessions, theatre plays, demonstrations, stands and information booths
Benefits	Allows people to connect and link ideas as well as exchanging opinions in a natural way and relaxed setting.

Risks	Too many parallel sessions: while people may enjoy the luxury of choosing from over thirty to sixty events in three or four days, there may be too many parallel sessions competing (consider quality versus quantity, and do not plan too many sessions). Large groups: You may have 100-150 people in a session, and the meeting room layout may also pose challenges in what session types and facilitation approaches may be possible (consider breaking a large room of 100 participants into smaller groups, using World café or other participatory methods).
Required tools	Displays or movable boards, flip charts, laptops and projectors, big posters, pencils and markers, microphone, summary sheets for every stand, name labels for every stand.
Timeframe	Duration of the activity: one to three days. Events such as a share fair need careful planning. Even though a fair aims at spontaneous and informal exchange of ideas, improvisation should reside in the flow of thoughts and content, not in the approach. Planning should start at least with one year in advance. Alternatively, the fair can be combined with other events. For example, it is possible to dedicate a complete afternoon to a knowledge fair with specific activities and then let it stand in the background for demonstration and illustration purposes.
Required skills and resources	The organization of a Knowledge Fair requires careful planning, resources and budget allocation. Multiple skills and resources are needed. The organization can be subcontracted to an event planning agency or organizer.
Comments	A further analysis is the basis for written and visual documentation of the methods results and recommendations. A personal presentation of these outcomes in the workshop provides the platform for a discussion of their practical consequences and implementation. It could be used for topic-based engagement
Useful links	http://www.fao.org/3/i2538e/i2538e04.pdf http://www.fao.org/3/a-aq228e.pdf
Examples	The Food and Agriculture Organization - FAO, Center for International Forestry Research - CIFOR

Open space technology

General outline	
Method	Open space technology workshop
Short description	The Open Space Technology is a method to organize participation events basically of large and medium scale. The method is based on the principles of passion, responsibility and commitment, bearing in mind the assumption that the most productive way to work is to work on a topic for which one cares. It consists of: • Guided development and implementation of an agenda that deals with a central theme;

	• Uses the self-organizing capacity of participants to reach learning and knowledge sharing objectives; • Participatory approach to identifying relevant learning and knowledge sharing content and methods.
Objective	• To support informal learning, brainstorming, networking, deal making and collaboration within groups that have identified common goals; • To address highly complex central themes that no single person or small group can understand completely; • To design action plans.
Target	Researchers, NGOs, policy makers, consumers, industry
Geographical scope	EU, International
Online/offline	Offline
Impacts	Inform, Consult, Involve
Engagement stream(s)	'Preparedness', 'Stakeholder dialogue'
Engagement window ('Quality of science' stream only)	Not applicable
Implementation	
Detailed description	A one day Open Space event has three parts: • An introduction to the whole plenum, explaining the method and what is expected of the participants in order to have a successful event. It is followed by the agenda setting, where workshop sessions are announced and scheduled and where the participants register for the workshops of their choice (It all takes a maximum of 1 hour – 15min for the introduction and the rest of the time is dedicated to agenda setting and enlisting). • The sessions themselves, where multiple workshops are conducted simultaneously. • A final round with the whole plenum in which the facilitator summarizes the events of the day and gives participants the opportunity to comment on their experiences and lessons learned. **Rules:** In the introduction, the facilitator should explain clearly how the event is going to work. The method's originator Harris Owen offers four principles and one law as framework rules for an Open Space event: • "Whoever comes is the right people": especially important at stakeholder events with a broad scope of participating organizations, or where differences in status and hierarchic position may occur.

	• "Whatever happens is the only thing that could have happened": sometimes the expectations of the participants differ from what the event is really like, be it the event in general or discussion dynamics. • "Whenever it starts is the right time." • "When it is over, it is over": these two principles concern the productive time spent in a workshop session. When there is nothing worthwhile to discuss anymore, it is better to close the workshop and join another one or have a break instead of clinging on the scheduled 90 minutes. This leads to the "Law of two feet" which says that you are allowed to switch workshops within an ongoing session or separate for a more intense discussion in a smaller group or even a break. If a participant feels, he or she is neither able to learn nor to contribute something to the discussion, or the discussion turns into a direction which is of no interest for him or her, he or she should not waste time and leave the workshop and go to another one which he or she finds more interesting. Neither should the left group feel offended about this nor the person who left have a guilty conscience. Additionally, it is a possibility to avoid or leave workshops where a single person dictates the discussion dynamics, issues and accepted facts without paying regard to the opinions of the others. **Follow up:** A book of proceedings should be sent to the participants only a few days after the event. It is a summary of the outputs of all workshop sessions with a short overview evaluation. Then the gathered data can be analyzed more closely to produce a report fitting to the objectives of the project.
Benefits	Participants decide which session they want to join according to their interests and needs, which means all those who attend are the right people.
Risks	
Required tools	Wall with the open space agenda. A print-out of the open space principles and instructions. Template print-outs for reporting. Enough flip charts for the different breakout sessions. Pencils and markers.
Timeframe	One to three days is the recommended length. A single day event can produce a lot of information and data, lead to intense discussions, information translation between stakeholders, networking and ideas for new projects or other follow up actions. A two day event allows better recording and the opportunity to convene new workshops which have developed out of the discussion process and dynamics of the first day (e.g. the planning of a new proposal/project or issues which arose in one workshop and could not be discussed completely). Additionally, a three-day event allows more time for reflection.
Required skills and resources	Subject-matter expertise: Basic IT skills: Basic Facilitation skills: Intermediate

	Event organisation skills: Intermediate Project management skills: Intermediate
Comments	Despite the principle of voluntary self-selection, the people/homepages/distribution lists, etc. to which the invitation is send should be chosen accordingly to the objectives of the event. For example, making sure that every stakeholder is represented sufficiently.
Useful links	https://www.openspaceworld.com/brief_history.htm
Examples	Center for International Forestry Research - CIFOR

Unconference

General outline	
Method	Unconference (or BarCamp)
Short description	An unconference is a participant-driven meeting. They are open, participatory workshop-events, the content of which is provided by participants. Typically, at an unconference the agenda is created by the attendees at the beginning of the meeting. Anyone who wants to initiate a discussion on a topic can claim a time and a space. Some unconference sessions are led by the participant who suggested its topic; other unconference sessions are basically open discussions of the session topic.
Objective	Avoid hierarchical aspects of a conventional conference, such as sponsored presentations and top-down organization
Target	Researchers, NGOs, academia, risk assessors
Geographical scope	Local
Online/offline	Offline
Impacts	Inform, Consult, Involve
Engagement stream(s)	'Preparedness', 'Stakeholder dialogue'
Engagement window ('Quality of science' stream only)	Not applicable
Implementation	
Detailed description	Unconferences are well suited to promoting interactions and networking between attendees as they allow a more flexible agenda. Discussion topics are shaped and influenced by participants, with exchanges of knowledge from many to many. This works particularly well when discussion groups are relatively small, creating a flexible, creative, and conducive environment for exchanges.

	Depending on the mission and the goals of the participants, unconferences can be organized in many different ways: events accompanying a traditional conference, where participants organize themselves to discuss topics without any pre-planned agenda, similar to "bar camps," where the program is rewritten or overwritten on-the-fly by the participants using whiteboard schedule templates. Other examples involving project-driven events include those mainly focused on technology topics such as "hackathons." During such events, small sub-teams gather to work together on developing/addressing particular parts of a software project. A little more organization is needed to arrange a "curated unconference" where topics and structures are collected by potential participants prior to the event. A group of organizers, in a transparent and open procedure, then sort through these ideas to build a structure of large and/or small-group discussion. Other guidelines for their implementation cover: • Having a clear and visible mission statement can be a very effective way of focusing ideas for the content and structure of the event. • Minimize the Lecture-Style Presentations. One of the defining features of an unconference is its inversion of the common features of more traditional meetings, in particular academic conferences. • Involve participants in planning and structuring of the event. Participant-centric thinking is perhaps the key feature that differentiates unconferences from more traditional meetings. Empowered participants, who know that they can directly influence and contribute to the structure and content of a meeting, tend to be much more invested in its success and outcome. • Provide an open, relaxed atmosphere. In order to make an unconference a success, the atmosphere of the event should be relaxed, open, friendly, and fun. • An effective way to encourage communication and participation is through ice-breaker activities during the early stages of the event. • Trust your community unconferences prioritize focusing on, and engaging with, everyone who chooses to get involved in the event. This is in contrast to more traditional meetings, where the focus is much more on what the organizers have planned and the scheduled session presenters. Thus, in an unconference format, responsibility for the success of the event is more equally distributed across all participants. • Engaging in communication is one of the reasons why people choose to come together for any meeting. One main characteristic of unconferences is the emphasis on interactive communication that gives all participants a chance to have their contributions heard by others. • A great way to extract the collective expertise, knowledge, and experience of attendees during unconference sessions is to encourage participants to identify and work together towards a

	common goal, and to document how they attempted to get there. A good way to do this is to write down all ideas and suggestions, so that later they can be sorted and considered.
Benefits	Advantages of the unconference format include: • a focus on topics that are relevant to the attendees (because they suggested them); • an opportunity for teamwork development; • flexibility of schedule; • an emphasis on contributions from every participant. The relationships built during an unconference often continue well past the event. The interactions can lead to productive collaborations, professional development opportunities, and a network of resources and are very effective at building a community amongst participants. The unconference format, therefore, gives participants experience in working together.
Risks	Being a user-driven engagement event, the risk is to lose control on the real goals and mission of the unconference. Some governance and management tools need to be put in place while guaranteeing the participants' freedom in structuring the event. In an unconference format, the organizers will be successful if they trust the community to work with them to make the event a success.
Required tools	It is important to have tools that allow attendees to share the resources, ideas, and challenges of the session conversations. Space to organize participatory workshops and materials
Timeframe	From half-a day to a one-day event
Required skills and resources	Facilitators, supporting teams
Comments	An event organizer could be involved
Useful links	https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4310607/ https://en.wikipedia.org/wiki/BarCamp
Examples	UK Health Camp https://ukhealthcamp.com/

Six thinking hats

General outline	
Method	Six thinking hats workshop
Short description	The Thinking Hats exercise is a kind of roleplay in which different perspectives are represented by hats of different colours. When a participant is symbolically wearing a specific hat, they must seek to perceive the situation through the lens associated with that colour. This method shows how different aspects of one's personality can approach a problem differently. It helps to achieve more comprehensive perspectives and sounder solutions, by forcing the participants to step outside the limits of their standard thought processes and points of view.

Objective	The main objective is to assist in the critical analysis of complex situations by simulating diverse points of view in a controlled environment. This method is normally used in the context of training and can be considered a training technique.
Target	Researchers, students, academia, risk assessors
Geographical scope	European, International, Local
Online/offline	offline
Impacts	Involve
Engagement stream(s)	'Preparedness', 'Quality of science', 'Stakeholder dialogue'
Engagement window ('Quality of science' stream only)	Pre-mandate
Implementation	
Detailed description	Six thinking hats is a powerful technique for looking at decision making from different points of view. It allows emotion and skepticism to be brought into what might normally be a purely rational process, and it opens up the opportunity for creativity within decision making Each "Thinking Hat" is a different style of thinking. These are explained below: • **White Hat:** with this thinking hat, you focus on the available data. Look at the information that you have, analyze past trends, and see what you can learn from it. Look for gaps in your knowledge, and try to either fill them or take account of them. • **Red Hat:** "wearing" the Red Hat, you look at problems using your intuition, gut reaction, and emotion. Also, think how others could react emotionally. Try to understand the responses of people who do not fully know your reasoning. • **Black Hat:** using Black Hat thinking, look at a decision's potentially negative outcomes. Look at it cautiously and defensively. Try to see why it might **not** work. This is important because it highlights the weak points in a plan. It allows you to eliminate them, alter them, or prepare contingency plans to counter them. Black Hat thinking helps to make your plans "tougher" and more resilient. It can also help you to spot fatal flaws and risks before you embark on a course of action. It's one of the real benefits of this model, as many successful people get so used to thinking positively that they often cannot see problems in advance, leaving them under-prepared for difficulties.

	• **Yellow Hat:** this hat helps you to think positively. It is the optimistic viewpoint that helps you to see all the benefits of the decision and the value in it. Yellow Hat thinking helps you to keep going when everything looks gloomy and difficult. • **Green Hat:** this hat represents creativity. This is where you develop creative solutions to a problem. It is a freewheeling way of thinking, in which there is little criticism of ideas. (You can explore a range of creativity tools to help you). • **Blue Hat:** this hat represents process control. It's the hat worn by people chairing meetings, for example. When facing difficulties because ideas are running dry, they may direct activity into Green Hat thinking. When contingency plans are needed, they will ask for Black Hat thinking.
Benefits	It helps to achieve more comprehensive perspectives and sounder solutions, by forcing the participants to step outside the limits of their standard thought processes and points of view. Discussions can be more productive. The method reduces the possibility that participants are permanently stuck in one mode of thinking. The structure allows participants to easily track where the conversation is going. Facilitates less defensiveness and greater participation. Facilitates deeper thinking and creativity; thinkers only have to deal with one thing at a time.
Risks	Participants are not typically familiar with the process and need to learn it before they can use it. Facilitator needs to manage the tendency for labelling (*e.g. you are definitely a black hat person*)
Required tools	If hats are not appropriate, use T-shirts, coloured pens. Copies of the descriptions and roles for the participants who have a specific role to play. Pencils and markers. Flip chart.
Timeframe	Timing (1 hour to 1 hour 30 minutes): Introduction to thinking hats method and roles (15 minutes), Group processes and discussion (30-45 minutes), Collective debriefing (20-30 minutes).
Required skills and resources	Skilled facilitator
Comments	http://www.fao.org/elearning/course/FK/en/pdf/trainerresources/PG_SixThinkingHats.pdf https://coast.noaa.gov/data/digitalcoast/pdf/met-activities-hats.pdf de Bono Consulting - Six Thinking Hats www.debonoonline.com/Six_Thinking_Hats.asp
Useful links	https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4310607/ https://en.wikipedia.org/wiki/BarCamp
Examples	

World café

General outline	
Method	World café (or Knowledge café)

Short description	A World café is a structured conversational process for knowledge sharing in which groups of people discuss a topic at several tables, with individuals switching tables periodically and getting introduced to the previous discussion at their new table by a "table host"
Objective	World Cafés can create results to generate new ideas, to enable joint decision-making on key strategic issues, to discover new ways for collaboration, to reflect on the implications of a complex issue and in identifying specific step(s) for further exploration and implementation. The method facilitates: • Sharing experiences, stories or project results. • Problem solving. • Planning.
Target	NGOs, policy makers, researchers, citizens, consumers, industry
Geographical scope	European, International, Local
Online/offline	offline
Impacts	Consult, Involve
Engagement stream(s)	'Quality of science', 'Stakeholder dialogue'
Engagement window ('Quality of science' stream only)	Pre-mandate, Plan, Do
Implementation	
Detailed description	The World Café is a whole group interaction method focused on conversations. A Café Conversation is a creative process for leading collaborative dialogue, sharing knowledge and creating possibilities for action in groups of all sizes. The environment is set up like a café, with paper-covered tables for four supplied with refreshments. People sit four to a table and hold a series of conversational rounds lasting from 20 to 45 minutes about one or more questions which are personally meaningful to them. At the end of each round, one person remains at each table as the host, while the other three travels to separate tables. Table hosts welcome newcomers to their tables and share the essence of that table's conversation so far. The newcomers relate any conversational threads they are carrying and then the conversation continues, deepening as the round progresses. How to use it: Seat four or five people at small Cafe-style tables or in conversation clusters. Set up progressive (usually three) rounds of conversations of approximately 20-30 minutes each. Questions or issues that genuinely matter to your life, work or community are engaged while other small groups explore similar questions at nearby tables.

	• Encourage both table hosts and members to write, doodle and draw key ideas on their tablecloths or to note key ideas on large index cards or placemats in the center of the group. • Upon completing the initial round of conversation, ask one person to remain at the table as the host while the others serve as travelers or "ambassadors of meaning." The travelers carry key ideas, themes and questions into their new conversations. • Ask the table host to welcome the new guests and briefly share the main ideas, themes and questions of the initial conversation. Encourage guests to link and connect ideas coming from their previous table conversations, listening carefully and building on each other's contributions. • By providing opportunities for people to move in several rounds of conversation, ideas, questions, and themes begin to link and connect. At the end of the second round, all of the tables or conversation clusters in the room will be cross-pollinated with insights from prior conversations. • In the third round of conversation, people can return to their home (original) tables to synthesize their discoveries, or they may continue traveling to new tables, leaving the same or a new host at the table. Sometimes a new question that helps deepen the exploration is posed for the third round of conversation. • After several rounds of conversation, initiate a period of sharing discoveries and insights in a whole group conversation. It is in these town meeting-style conversations that patterns can be identified, collective knowledge grows, and possibilities for action emerge.
Benefits	By dividing a large group into smaller subgroups, conversations can be made more focused, relaxed and participatory, with greater opportunity for all participants to speak and contribute equally – thereby encouraging authentic sharing of experiences and knowledge. Rotation of groups from one table to the next adds value to the discussion, by allowing a group to build on the previous group's thoughts and ideas about a particular issue. The tool works best with a mix of people bringing different ideas and experiences. This tool is a good way to bring people from different backgrounds together to think about a complex issue and to find imaginative ways forward. Well facilitated, this makes work fun.
Risks	Facilitators need to be experienced. If feedback is not analysed immediately after the event, you will risk losing some of the emerging themes and imaginative solutions.
Required tools	Flip charts, paper hanging on the wall, a white- board, colored cards, markers for each table, visual instructions of the method (on PowerPoint or printed out), music or a bell to indicate when to rotate tables. Venue and catering.
Timeframe	Recruitment: 3 – 4 months before the workshop; Data analysis: 1 – 2 months; Feedback/Information of results: 1-2 weeks;

	Preparation of materials: 1-2 weeks; Room booking: 1-6 months; Duration of the activity: 90 minutes.
Required skills and resources	The basic process is simple and simple to learn, but complexities and nuances of context, numbers, question crafting and purpose may mean an experienced host needs to be recruited to help. Subject-matter expertise: Basic/Advanced IT skills: Basic Facilitation skills: Advanced Event organisation skills: Advanced Project management skills: Basic
Comments	The World Café is a trademark of the World Café Community Foundation. The World Café Hosting and Consulting Services provide professional hosting and consulting services. The method can be easily replicated with own resources. A main result is graphic recording, which involves capturing people's ideas and expressions in words, images and colour. This documentation is created by the participants of the World Café. It allows the group's collective work to be shared with others as a framework and guide.
Useful links	http://www.theworldcafe.com/ https://www.unicef.org/knowledge-exchange/files/World_Cafe_production.pdf
Examples	http://scottishhealthcouncil.org/patient__public_participation/participation_toolkit/world_cafe.aspx#.XnpTFZNKiCQ

Peer Assist

General outline	
Method	Peer Assist & Virtual Peer Assist
Short description	A participatory method of learning with and through peers by sharing experiences, insights and knowledge. The method is designed to develop context-specific solutions to a challenge, based on participants' previous practices and experiences. Collaborative analysis is carried out in order to adapt action to a specific situation. The method enables exchange of tacit knowledge and good practices in order to assist a peer in a particular activity or challenge. It is analogous to a peer review for a paper or publication, but instead of getting written comments on a document, a Peer Assist generates verbal comments and guidance (and usually some references to relevant, pre-existing written materials) on the plans for a project/ initiative/ other work-related challenge. A Peer Assist provides a safe environment for a learning group to articulate a challenge or problem they face, and for an advisory group to respond by sharing what they know from their own relevant experience – in the form of suggestions, anecdotes, good practices and recommendations – to help address the challenge

	A Virtual Peer Assist is an online group conversation between a learning group and an advisory group, taking place over a few hours, with all participants online simultaneously.
Objective	Peer Assists are useful: • For planning new projects/ initiatives. • For planning projects/ initiatives in very new areas where there is little or no prior knowledge or experience on the team, and/or for planning projects that have high risks and costs to failure. • During implementation, when a complex technical challenge reveals itself, and swift action is needed, but the responsible team is uncertain of how to proceed. The tool is ideal: • To stimulate collaborative problem-solving • To connect experienced peers • To address challenges • To elicit feedback • To review projects • To stimulate complex analysis
Target	Researchers, Scientists, other communities of interest
Geographical scope	European, international
Online/offline	Online
Impacts	Inform, Consult
Engagement stream(s)	'Preparedness', 'Quality of science'
Engagement window ('Quality of science' stream only)	Pre-mandate, Plan, Do
Implementation	
Detailed description	Peer Assists are best done before implementation begins, while plans are being drafted or can still be changed and while the project team is likely more willing to consider new approaches – i.e., 'learning before doing'. The learning group is composed of 1 - 6 persons combined total for learning and advisory groups, and including a rapporteur, working on the same project/ initiative. The advisory group (of similar size) consists of persons who have solid experience in facing comparable challenges or solving similar problems. Advisory group members are not necessarily from the same team; they may be from different teams or even different organizations. A facilitated activity, the Virtual Peer Assist is conducted online via web conferencing tools (such as Skype for Business, Adobe Connect, etc.). It should be considered especially when other sources of project advice (such as existing documentation,

	Knowledge Exchange communities, etc.) cannot offer the breadth and depth of perspectives needed.
Benefits	Peer Assists offer several advantages. The first of these comes from the 'peer' nature of the process: The advisory group and the learning group usually consist of people with similar roles, backgrounds and common interests, i.e. peers. These commonalities may make the learning group more receptive to good advice and suggestions from the advisory group. The online format of the Virtual Peer Assist enables organizers to invite participants in any location. This may make it easier to cast a wide net and find people with the right experience, even from other organizations. It is usually easier (and much less expensive) to get a couple of hours of online participation from a busy expert, than it is to book their time for 1-2 days and fly them to a face-to-face meeting. Peer Assists are also learning opportunities for the advisory group, who get the chance to see their ideas discussed, adopted and applied in new contexts. (Follow-up between the two groups is important for this to happen).
Risks	Virtual Peer Assists require considerable coordination to set up. Stick to problems or challenges that can be clearly defined: A Peer Assist is not suitable for extremely complex problems that are difficult to define, have too many unknown variables, or lack limits or end points. In such cases the peer assist process will not produce tangible solutions.
Required tools	Offline: Flip chart for each Peer Assist group, Markers and pencils, instructions for the Peer Assist method, Computers with internet access (if required). Online: Web conferencing platform For each participant: Computer and headset with microphone T support
Timeframe	60-120 minutes. Really complex projects may require a face-to-face Peer Assist, taking half a day or longer- Agenda suggestion for a 1 hour 30 minutes event: • Introduce the session and divide into groups (10 minutes) • Facilitator explains process and roles (5 minutes) • Peer assistee presents the case (5-10 minutes) • Discussion and facilitation (45 minutes) • Validate notes and plan follow-up (5 minutes) • Plenary debriefing (after multiple Peer Assists) (15 minutes) • Close the session (5 minutes).
Required skills and resources	1 Facilitator, 1 rapporteur, ideally from the learning team
Comments	Could work for Communicator's Lab (see EFSA SEA approach)
Useful links	http://www.fao.org/elearning/course/FK/en/pdf/trainerresources/PG_PeerAssist.pdf https://www.unicef.org/knowledge-exchange/files/UNICEF_Knowledge_Exchange_Toolbox.pdf

Examples	https://maarifa.ilri.org/2012/09/06/online-peer-assists-learning-about-concrete-solutions-and-better-questions-for-water-and-land-management-researchers/

PESTEL and SWOT combined

General outline	
Method	PESTEL Analysis
Short description	PESTEL, a complementary method to SWOT, expands on the analysis of external context by looking in detail at specific types of issues that frequently have an impact on implementation of project/initiatives. The term 'PESTEL' refers to the domains it considers: Political, Economic, Social, Technological, Environmental and Legal. PESTEL involves identifying the factors in each of these six domains that are relevant for the project being considered. A special focus of PESTEL is identifying trends. Thus, it is helpful for thinking proactively and anticipating change, rather than being overtaken by it. It is recommended to use PESTEL and SWOT together. PESTEL complements SWOT by identifying specific relevant factors (such as economic trends, social attitudes, technological developments, etc.) that are significant for the project being considered, and SWOT then classifies them as either Opportunities or Threats. The more complex your context or operating environment is, the more value PESTEL can offer, by identifying factors that would be missed by SWOT alone.
Objective	• For strategic planning and organizational development • To incorporate different perspectives on a situation
Target	Researchers, users, industry, NGOs, risk assessors
Geographical scope	Global, European, Local
Online/offline	Offline and online
Impacts	Consult, Involve
Engagement stream(s)	'Quality of science'
Engagement window ('Quality of science' stream only)	Pre-mandate, Plan, Do
Implementation	
Detailed description	PESTEL analysis in each of the six domains: Political, Economic, Social, Technological, Environmental and Legal. Share them with those who will be conducting the analysis, and ask them to identify specific relevant examples in the operational context of the project or initiative that you are considering. Remember, all PESTEL factors have relevance only in

	the specific operational context. Therefore, identify the ones that could impact your project and focus your analysis on them. Applying PESTEL is fairly simple: Of the nine steps to do a SWOT, only steps 2 and 5 are done differently when using PESTEL. An extensive set of PESTEL questions is provided to help participants identify more quickly and easily the relevant factors in each of its six domains. If you're short of time, you can just do a SWOT. But if time permits, then applying PESTEL and SWOT together results in a stronger analysis, a better understanding of the current situation, and the potential for improved decision-making. SWOT and PESTEL are flexible: They can be applied for planning or decision-making concerning an entire project/initiative, or alternatively it can be used to focus on specific stages or components of a project SWOT and PESTEL can be applied to large or small (but significant) projects or decisions. When assigning persons to do PESTEL research before the SWOT session, try to match the PESTEL domains with persons who have knowledge of those domains. Thus, a media expert would be strongest in the Social domain, a lawyer or someone with legal background in the Legal domain, etc. Those who do the PESTEL analysis should also participate at the SWOT so that they can explain and support their choice of factors.
Benefits	Creating, or helping create, a strategic plan or an action plan when launching a project/initiative. Weighing the pros and cons of major decisions. Reviewing positioning on an ongoing project/initiative at a key moment of reflection.
Risks	The method should not be used as an end in itself. Its value lie in using it as a step in a process.
Required tools	Flip charts, paper hanging on the wall, a white- board, colored cards, copies of the two-by-two table, Pencils and markers.
Timeframe	If time is very limited, or for small projects, do a quick SWOT in an hour (remembering to identify the Opportunities and Threats first, and then the Strengths and Weaknesses). With more time, or for projects/decisions with larger implications, do a full SWOT and PESTEL in about 3 hours, plus preparation time. With even more time, or for very significant projects/decisions, expand the time accordingly, up to a full day workshop.
Required skills and resources	Facilitator, rapporteur, supporting team
Comments	This reflection could be embedded in the evaluations made at the early stages of a mandate (problem formulation)
Useful links	https://www.unicef.org/knowledge-exchange/files/UNICEF_Knowledge_Exchange_Toolbox.pdf
Examples	

Public consultations

General outline	
Method	Public Consultations
Short description	Public consultations are effective ways to collect comments from stakeholders and the public at different stages of the risk assessment process.
Objective	Researchers, Users, Industry, NGOs, CSOs
Target	European, global
Geographical scope	Online
Online/offline	Consult
Impacts	Already in place at EFSA
Engagement stream(s)	'Quality of science'
Engagement window ('Quality of science' stream only)	Plan, Verify
Implementation	
Detailed description	
Benefits	
Risks	
Required tools	
Timeframe	
Required skills and resources	IT tools
Comments	
Useful links	
Examples	

Public events

General outline	
Method	**Public events**
Short description	EFSA holds a variety of digital and face-to-face public events with open registration targeting stakeholders and other interested parties. Some of them – namely information sessions and scientific colloquia – are

	included in the list of targeted platforms of the SEA and/or in the catalogue of support initiatives during the lifecycle of applications for regulated products. Others are managed as standalone activities. Formats include: **Scientific colloquia**: meetings aimed to explore cutting edge research, emerging risks, science or methods not yet covered by EFSA in any of its mandates. **Scientific conferences**: meetings where participants exchange information and expertise, network with peers and showcase scientific work in oral/poster presentations. **Information sessions**: seminars aimed to transfer knowledge on methodologies or explain EFSA's scientific outputs (e.g. a guidance document) to EFSA's interested parties **Technical meetings with stakeholders:** meetings hosted in conjunction with a public consultation to present the scope of the consultation itself and/or discuss its outcome with all the contributing interested parties. **Webinars (digital information sessions):** web-based seminars aimed to explain a scientific output or methodology to a virtual audience of stakeholders and promote its understanding. **Workshops:** interactive meetings aimed to engage participants in intensive discussion on a topic or a test case and collect input to inform a (scientific) process.
Objective	
Target	
Geographical scope	European, global
Online/offline	offline / online
Impacts	Inform, Consult, Involve
Engagement stream(s)	'Preparedness', 'Quality of science'
Engagement window ('Quality of science' stream only)	Pre-mandate, Plan, Do, Verify, Report
Implementation	
Detailed description	
Benefits	
Risks	
Required tools	
Timeframe	
Required skills and resources	

Comments	
Useful links	
Examples	

Q-methodology stakeholder selection

General outline	
Method	Q-methodology stakeholder selection
Short description	Controversial issues in public debates involve stakeholders and experts with a wide variety of viewpoints. The Q-methodology (also known as 'Q Method', 'Q Méthode' or 'Q Méthodologie') is a research tool from the social sciences which can be used to gain insight into the diversity of perspectives. Furthermore, it can be used to select relevant participants for further dialogue about the issues at hand. When organising a dialogue, it is fundamental to facilitate the meeting of stakeholders with diverse viewpoints on the issue under discussion. Often the assumption is made that by selecting participants on the basis of their affiliation, a wide range of views is represented. The Q methodology can be a tool for stakeholder selection where the emphasis lies on the representation of diverse perspectives in the dialogue.
Objective	Gain insight into the diversity of perspectives of stakeholders in a controversial issue. It can be used to select relevant participants for further dialogue.
Target	Researchers, policy-makers, risk assessors, academia
Geographical scope	National, regional
Online/offline	Offline
Impacts	Consult
Engagement stream(s)	'Preparedness', 'Quality of science'
Engagement window ('Quality of science' stream only)	Pre-mandate
Implementation	
Detailed description	The Q methodology involves three main steps: • Definition of the concourse • When looking at a specific issue, the 'concourse' is the sum of all the statements about the issue. • Interviews and perspective identification The sample of statements collected in the first phase is presented to the interviewees, who each make a Q-sort. This is a ranking of the statements in the Q-set according to their personal agreement or

	disagreement with the statements. At the end of each of the sessions the interviewer has two sets of data, the Q-sort and the narrative where the interviewee explains their choices.
Benefits	Gaining an overview of a variety of perspectives in public debates about controversial issues, which allows the creation of a dialogue among stakeholders with different perspectives.
Risks	This method is not suitable for finding out the level of support for a specific perspective. There is some measure of the extent to which they are represented with various stakeholders, but due to the purposive sampling there is no measure of the extent to which each perspective is supported by a wider public. Compared to other more straightforward approaches to selecting stakeholders, this is a time-consuming process.
Required tools	
Timeframe	Weeks
Required skills and resources	Subject-matter expertise: Intermediate IT skills: No such skills required Facilitation skills: Intermediate Event organisation skills: No such skills required Project management skills: Basic
Comments	Interesting for mandates and topics where value based judgement lead to polarised an conflicting views (pre-mandate engagement)
Useful links	http://actioncatalogue.eu/method/7436 https://en.wikipedia.org/wiki/Q_methodology
Examples	https://research.vu.nl/en/publications/q-methodology-to-select-participants-for-a-stakeholder-dialogue-o

Reflexive interactive design

General outline	
Method	Reflexive interactive design
Short description	The reflexive interactive design process consists of different stages, which could be seen as separate methods; the combination makes it unique and effective. This method is applied when sectors have arrived at a lock-in situation, where different stakeholders disagree on values or the nature of the problem. It is based on theories about systems learning, systems research and takes an integrative approach on problem-solving within unsustainable systems.
Objective	This method is applied when sectors have arrived at a lock-in situation, where different stakeholders disagree on values or the nature of the problem.
Target	Researchers, CSOs, policy makers, consumers, industry, risk assessors
Geographical scope	National

Online/offline	Offline
Impacts	Involve
Engagement stream(s)	'Quality of science'
Engagement window ('Quality of science' stream only)	Pre-mandate
Implementation	
Detailed description	The method consists of three steps: • Interviews are done with numerous stakeholders in the sector, as well as NGO's and the relevant ministry, to identify the sustainability problem(s) of the subsectors. • Collective System Analysis (CSA): After the interviews are done, a workshop is organised. This CSA workshop is attended by participants that showed a willingness and ability to innovate and think outside the box during the interview. The aim is to get insight into the whole production-consumption system and especially to identify the main points where this system is blocking innovation and where possibilities for innovation lie. In the workshop, all participants write down the barriers they feel are blocking sustainable development on post-its. These post-its are placed on an Innovation Systems framework (a matrix showing the entire sector and all its interactions), while the participants explain them to the rest of the participants. Then, all participants reflect on the barriers listed, trying to determine the main underlying causes. In the next round, the same procedure is followed for current developments in or outside the sector, that offer windows of opportunity for innovation towards sustainability. At the end, one of the group members presents the results to the other groups in a plenary discussion and possible actions for improvement are proposed. • Design Atelier(s): The interested participants from the CSA workshop, then come together for two days to: 1. Identify what they feel are important characteristics of a sustainable production system; 2. Design a production system that meets these demands. An artist is present and draws these designs at the end of the day. In a plenary discussion these designs are assessed and pros and cons of the designs are identified.
Benefits	It brings together different parties that normally would not choose to sit together and innovate together. Also, because of the strongly participative character of the design process, the participants are more likely to accept the final design and have a sense of ownership. Because of this, they are stimulated to actually translate the new ideas into real initiatives in the field.

Risks	There is a risk that the innovations that were designed in the Design Ateliers are just that: designs. If they stay only theoretical and on paper, these do not mean much. The challenge lies in taking this method one step further and using these designs in further research and innovation steps. In most of the projects listed at the end of this fact sheet, one or more of the designs that came out of the design atelier have been taken into practice and are being tested. Crucial to this method is the selection of participants. The willingness of the participants to cooperate and to find solutions together is a key condition for the workshops to be successful. Some stakeholders in a sector may not feel the need or may not be able to think outside the box. A balanced group of participants is important, but researchers have pointed out that creating a completely representative group is not only impossible, but may also be inefficient when trying to create innovative designs over a short period of time. Preliminary interviews with potential participants serve to identify those parties that show a willingness to cooperate, innovate and think outside the box. These have an important role in choosing the right design atelier participants. Knowing the sector in which you want to innovate and from which you want to choose participants is important, in order to be able to identify the bottlenecks in the sector in which innovation is being blocked or where there are possibilities for further innovation. So, overall, the preparation of the design atelier is essential in creating an efficient design process and a truly innovative product.
Required tools	
Timeframe	From 2 to 6 months
Required skills and resources	Subject-matter expertise: Advanced IT skills: Basic Facilitation skills: Advanced Event organisation skills: Intermediate Project management skills: Intermediate
Comments	Interesting for mandates and topics where value-based judgement lead to polarised and conflicting views (pre-mandate engagement)
Useful links	http://actioncatalogue.eu/method/7437
Examples	http://www.wageningenur.nl/nl/show/Varkansen-1.htm

Research agenda camp

General outline	
Method	Research agenda camp
Short description	Aim of the method: to develop "research programme scenarios" i.e. suggestions for research programmes addressing the underlying societal needs, aspirations and commonalities developed in a previous phase. Note: it is not a method on its own, it has to be integrated in a larger process. Based on the previous work, each need or aspiration is presented with a description and related extracts of citizen visions to

	illustrate the needs. The process will lead the group from a need or aspiration expressed by citizens to the description of a research programme addressing these needs and aspirations. This process is a 2-day co-creation workshop, with participants working in small groups organized by tables.
Objective	Identify potential research topics. Gather researchers, policy makers, and day-to-day citizens who have been working on visions of a desired future. It may change the perspective of each group on the others and on research.
Target	Policy makers, researchers, citizens, consumers, academia
Geographical scope	EU, national, regional
Online/offline	offline
Impacts	Consult, Involve
Engagement stream(s)	'Preparadness', 'Quality of science'
Engagement window ('Quality of science' stream only)	Pre-mandate, Plan
Implementation	
Detailed description	The process will lead the group from a need or aspiration expressed by citizens to the description of a research programme addressing these needs and aspirations. PARTICIPANT SELECTION The selection of participants from the following two groups is made as follows: For the citizens if you organised several workshops to build visions (created the needs), select participants from every workshop. The experts' as well as stakeholders' field of expertise shall be as broad as possible to open up as many options as possible for the research programme development. Nevertheless, make sure you have some experts with area of expertise related to each of the social needs. We recommend to recruit 10 to 15 citizens and 10 to 15 experts. The roles of the different groups of participants are defined as follows: • The role of the citizens is to reinforce the authenticity of the messages coming from the original visions elaborated in the workshops, and, in addition, to bring their everyday experience and insights at the table. • The role of the experts & stakeholders is to bring their scientific knowledge and to contribute especially if there are several key-steps, such as 'Finding Influencing Factors', 'Formulating Research Questions' and 'Building the Research Agenda Scenario'. • The role of your team members is double: from one side they participate by bringing their knowledge and experience, on the other side they act as 'hidden' connectors among experts and

	citizens, as they are highly committed into the project and interested in high quality results. • The role of the facilitator is to supervise the whole process, to organize the group work, to fill templates (or supervise this activity, always checking that each template is properly filled with the reference to the social need and table number), to offer valuable suggestions / solutions especially when the table is experiencing some troubles in content defining.
Benefits	It produces potential research topics based on experience and perspective of the different categories of actors involved.
Risks	Attention is necessary to keep all the research topics connected to the original visions
Required tools	
Timeframe	1 day event
Required skills and resources	Subject-matter expertise: Intermediate IT skills: Basic Facilitation skills: Advanced Event organisation skills: Intermediate Project management skills: Intermediate
Comments	This method could work for specific research events (e.g. RARA - Risk Assessment Research Assembly)
Useful links	http://actioncatalogue.eu/method/7445
Examples	This method was applied by the EU funded project CIMULACT http://www.cimulact.eu/

Science Café

General outline	
Method	Science Café
Short description	Event organized in an informal setting as a place of dialogue with participants coming from all walks of life and academia.
Objective	Engage people in a conversation about the issues in science and technology that affect their lives.
Target	Academia, Consumer, Students, Researchers
Geographical scope	Local
Online/offline	Offline (with the possibility of having persons connected remotely with audio and video streaming and chat room)
Impacts	Involve

Engagement stream(s)	'Preparadness', 'Quality of science'
Engagement window ('Quality of science' stream only)	Report
Implementation	
Detailed description	Worldwide, science cafés continue to rise in popularity. Since 1998, when the first science café were organized both in the UK and France, all over the world science cafés have been set up with an estimation of about 700 science cafés in 2014. In science cafés, both scientists and the public can meet in an informal environment and participate in discussions about science issues Through this method, for the price of a cup of coffee or a cup of tea, anyone can come to explore the latest ideas in science and technology. In this way, the academic context becomes a bar where scientific experts are invited to give a short talk and then the floor is open for discussion. The café format is very flexible and adapts to many different purposes, information sharing, relationship building, deep reflection and action planning. This method is particularly effective in surfacing the collective wisdom of large group of diverse people. Participants in science café events can gain new knowledge and perspectives on a certain topic through their interaction with the experts and the rest of the attendees. In addition, participants, can also get informed on alternative views and relevant narratives, especially when the events focus on controversial issues, often raise new questions.
Benefits	Informal method to exchange face-to-face opinions. Inexpensive to plan and run. This method is suitable for ´Every subject under the sun!'
Risks	
Required tools	• Small tables • Chairs for participants and presenters • Flip chart paper • Markers • Larger paper for harvesting collective knowledge • Posters showing the "Cafè Etiquette"
Timeframe	Total session: 1 hour (maximum) including presentations by speakers. These could be around 5 minutes, even if some facilitators prefer presentations without slides to encourage a more informal interaction.
Required skills and resources	Usually one expert speaker is needed, but there are also models with multiple experts. A key ingredient is the presence of a moderator who should also train the experts to ensure there are lively and useful discussions.

Comments	Interesting to raise awareness and promote the understanding of the risk assessment process.
Useful links	Resources from EU-funded projects: SciCafe, Cafe 2.0
Examples	https://inspiresproject.com/about-inspires/

Science shops

General outline	
Method	Science shops
Short description	Small entities carrying out scientific research in a wide range of disciplines on behalf of citizens and local civil society
Objective	Provide civil society with knowledge and skills through research and education; Enhance understanding among policy makers and education and research institutions.
Target	Civil society, policy makers and educational entities
Geographical scope	National, local
Online/offline	Offline
Impacts	Involve
Engagement stream(s)	'Quality of science'
Engagement window ('Quality of science' stream only)	Report
Implementation	
Detailed description	The core activities of universities are teaching and research, but many have a third mission to transfer knowledge to society. The democratic idea is that research should be accessible to everyone, including civil society organisations and non-profits (complementary to curiosity driven or commercial research). A Science Shop thus is a unit that provides independent and participatory research support in response to concerns experienced/expressed by civil society. Science Shops were established in the 1970s in the Netherlands (with similar developments in e.g. Canada and USA), and are now active in many countries. Civil society driven research leads to interesting research topics for staff and students, and offers social and political learning for students, next to developing problem-solving skills. It offers good PR for the university. This is a win-win-win situation. Policy makers benefit from additional knowledge to base decisions on. In an initial-meeting, the research objectives and time frame are agreed, expectations managed, and sources of knowledge identified. The CSO participates in the sounding-board of the project. Results are made public. Through this

	co-operation, the research is both independent and participatory. Further involvement of the CSO is possible, depending on the context (Community Based Research, Citizen Science). In university-based Science Shops, the university has final responsibility for a product abiding by academic quality standards. Other Science Shops are stand-alone organisations, who usually work in partnership projects with CSOs and research institutes, or perform part of the research themselves. Responsibilities are distributed within the team. Because at universities' Science Shops the research is mostly done in the curricula, there are low costs involved. Mostly, bachelor or master thesis research is used to perform research for a CSO. For professors, supervising this research counts towards their teaching hours. At the same time, working with students also has limitations, especially in time planning. When additional funding is available, researchers can be hired. The Science Shop, as infrastructure, offers an existing network of CSOs in the region, in which trust relations have been established. When starting from scratch, a needs survey among CSOs can be done, to see if the expressed needs match research interest/capacity within the institute, or the consortium submitting a research proposal. Science Shop staff have good experience in process management of these co-operative projects.
Benefits	The method combines different types of knowledge, builds on issues defined by civil society, and makes output usable to civil society. Additional benefits are co-creation of knowledge, empowered CSOs, motivated students, and PR for the involved research institute.
Risks	
Required tools	
Timeframe	If infrastructure already exists, projects may be set up in a time frame of 3-6 months, though availability of students may prolong the time frame with another 6-12 months. It takes 1-2 years to start a full Science Shop as infrastructure. Maintaining contacts is a continuous effort.
Required skills and resources	Advanced project management and facilitation skills required.
Comments	
Useful links	Toolbox on the International Science Shop Network https://www.livingknowledge.org/resources/toolbox/#c997
Examples	Science Shop Austria - Austria, "Wissenschaftsladen", the The Bonn Science Shop - Germany https://inspiresproject.com/about-inspires/

Science week

General outline	
Method	Science week

Short description	Science Week is a method to communicate science to a wide target audience, especially students.
Objective	Create enthusiasm for science, technology and health among children and the youth, and to strengthen and develop interest in the science curricula in primary, secondary and upper secondary schools.
Target	Researchers, citizens
Geographical scope	National
Online/offline	Both
Impacts	Inform, Involve
Engagement stream(s)	
Engagement window ('Quality of science' stream only)	
Implementation	
Detailed description	Science Week is an annual event. However, it can also be viewed as an approach consisting of many methods which aim at communicating science to students in primary, secondary and upper secondary schools. Every year a different theme should be chosen. The organizer (EFSA) produces a catalogue of ideas which comprises a number of different activities that the participating schools can carry out. The organizer coordinates these activities, and sees to it that the event is introduced to schools and the press. The activities are developed in collaboration with many different stakeholders, for instance universities and companies. Overall, EFSA should provide the setting for the activities. In practice, it is the teachers who organise the event at their local schools and apply the methods with their pupils. There is no attendance fee, and the individual participating school decides how many of the proposed activities they want to carry out or participate in.
Benefits	The method reaches a large audience. The partnerships with universities, companies, etc. provide an opportunity for children and young people to realise how science is used in real life. The method contributes to building bridges between schools and society. The method is really flexible. The secretariat leaves it to the schools to decide how, and to what extent, they want to participate in the event.
Risks	Science Week organiser isn't in control of the direct application of the method(s). It is up to the local teachers and schools to make their Science Week a success. It can be difficult to measure direct results of the application of the method.

	Finances are a main concern when applying this method. Organisers will have to spend a lot of time on fund-raising.
Required tools	
Timeframe	The theme is planned three years ahead. It takes place on the same week every year.
Required skills and resources	Subject-matter expertise: Intermediate IT skills: Advanced Facilitation skills: Intermediate Event organisation skills: Advanced Project management skills: Advanced
Comments	Networking is a keyword. The successful application of the method depends a great deal on establishing external partnerships with universities, companies, etc. It would be used to engage locally to raise awareness and promote the understanding of the RA process. The feasibility of this method depends on available resources (this is really demanding)
Useful links	http://actioncatalogue.eu/method/7414
Examples	Danish Government

Scoping study

General outline	
Method	Scoping study
Short description	Literature review of published and grey literature, followed by focus group and interview consultations: scoping studies aim to map key concepts underpinning a research area and the main sources and types of evidence available. They include a literature review and consultation phase that may be used to (a) examine the extent, range and nature of research activity, (b) determine the value of undertaking a full systematic review, (c) summarize and disseminate research findings, or (d) identify research gaps in the existing literature. For example, a scoping study may start with a literature review followed by a series of focus groups and key informant interviews to prioritize research.
Objective	The purpose of a scoping exercise is: • To map a wide range of literature, and to envisage where gaps and innovative approaches may lie. • To examine the extent, range, and nature of research activity. • To determine the value for undertaking a full systematic review. • To summarize and disseminate research findings. • To identify research gaps in the existing literature.
Target	Researchers, academia, risk assessors
Geographical scope	International

Online/offline	Online/offline
Impacts	Inform, Consult
Engagement stream(s)	'Quality of science'
Engagement window ('Quality of science' stream only)	Do
Implementation	
Detailed description	Scoping studies are concerned with contextualizing knowledge in terms of identifying the current state of understanding; identifying the sorts of things we know and do not know; and then setting this within policy and practice contexts. Scoping reviews are exploratory projects that systematically map the literature available on a topic, identifying the key concepts, theories, sources of evidence, and gaps in the research. They are often preliminary to full syntheses, undertaken when feasibility is a concern -- either because the potentially relevant literature is thought to be especially vast and diverse (varying by method, theoretical orientation or discipline) or there is suspicion that not enough literature exists. These entail the systematic selection, collection and summarization of existing knowledge in a broad thematic area for the purpose of identifying where there is sufficient evidence to conduct a full synthesis or where insufficient evidence exists and further primary research is necessary.
Benefits	• Provides overview of state of evidence in a field • Includes published and unpublished literature • Includes a wide range of studies design and methodologies • Tools for mapping broad and diverse topics
Risks	• Difficulty establishing boundaries with broad scope • Lack of detailed methodological steps, guidance, standards • Unclear how to interpret scoping evidence with lack of quality appraisal
Required tools	
Timeframe	Months
Required skills and resources	Rapporteur
Comments	https://implementationscience.biomedcentral.com/articles/10.1186/1748-5908-5-69/tables/1
Useful links	http://actioncatalogue.eu/method/7414
Examples	Journal of Clinical Epidemiology https://www.jclinepi.com/article/S0895-4356(18)30754-6/fulltext

Stakeholder working groups

General outline	
Method	Stakeholder working groups
Short description	The method is designed as a workshop that enables focused discussions between different groups of stakeholders. The method consists of five steps (information, selecting topic, discussion, deliberation, and vote) of which some can be repeated if more than one research scenario is to be enriched by each group.
Objective	• Bring together stakeholders with different points of views on the selected research scenarios and prompt them to answer a series of questions in order to generate rich group discussions that can feed into the process of producing a final research programme. • To have stakeholders to react to each other and bring up questions, knowledge and insights into a specific research scenario for each group. • To help prioritizing the most promising enriched research scenarios.
Target	Researchers, policy-makers, NGOs, industry, academia, risk assessors
Geographical scope	National, regional, local
Online/offline	Offline
Impacts	Consult, Involve
Engagement stream(s)	'Preparadness', 'Quality of science'
Engagement window ('Quality of science' stream only)	Pre-mandate, Plan, Do, Verify
Implementation	
Detailed description	This method brings together stakeholders with different points of views on the selected research scenarios and prompt them to answer a series of questions in order to generate rich group discussions that can feed into the process of producing a final research programme. The main objective is to have stakeholders to react to each other and bring up questions, knowledge and insights into a specific research scenario for each group. The working groups help prioritizing the most promising enriched research scenarios.
Benefits	• The method is flexible (1 day/half day or repeat the consultations according to number of research scenarios) which can be advantage for recruiting stakeholders. • The research scenarios can be (elaborately) enriched by the diverse views and knowledge due to stakeholder's expertise • Stakeholders tend to be very productive

Risks	• As any other method with stakeholders, it is more difficult to motivate them to participate at the workshop. • If table facilitators are not well prepared (familiar with the method/process) the result does not have to be beneficial • It's extremely difficult to convince a high number of stakeholders to attend in a single day consultation. Even if they tell you that they will attend, there is a high probability that they will not attend. You must be prepared for this, by inviting a higher number of people than the minimum you wish to achieve.
Required tools	
Timeframe	The workshop lasts 6 hours
Required skills and resources	Subject-matter expertise: Intermediate IT skills: Basic Facilitation skills: Advanced Event organisation skills: Advanced Project management skills: Advanced
Comments	Already in place at EFSA (Stakeholder Bureau, discussion groups)
Useful links	http://actioncatalogue.eu/method/7446
Examples	

Swot Analysis

General outline	
Method	Swot Analysis
Short description	Acronym for Strengths, Weaknesses, Opportunities and Threats in relation to a situation, activity or programme. A SWOT analysis is a well-known strategic planning tool to discover weaknesses and strengths of an individual, group or organization, and to identify both potential opportunities and threats. A SWOT analysis in a multi-stakeholder partnership can be an effective way to review strategies participants are developing, or to evaluate an implemented activity. The tool helps participants be realistic about what they can achieve and where they should focus.
Objective	• To carry out an environmental scan • To make an internal assessment • For strategic planning and organizational development • To incorporate different perspectives on a situation.
Target	Researchers, academia, users, industry, consumers, risk assessors
Geographical scope	Global, European, Local
Online/offline	Offline (also online SWOT is possible)
Impacts	Consult, Involve

<table>
<tr><td>Engagement stream(s)</td><td>‘Quality of science’</td></tr>
<tr><td>Engagement window (‘Quality of science’ stream only)</td><td>Pre-mandate, Verify</td></tr>
<tr><td colspan="2">Implementation</td></tr>
<tr><td>Detailed description</td><td>A SWOT analysis can be done as a brainstorm in a small group or workshop setting. Make sure your SWOT is definable, measurable, and clear from the beginning.
How to use this method:
• Design four series of SWOT analysis questions to explore internal external factors that may affect a case, situation or challenge. Internal factors that generate strengths and weaknesses may include human resources, finances, organizational structure and priorities, and institutional culture. Common external factors that affect opportunities and threats include the political, social and economic context, and technological advances or limitations.
• Create a blank two-by-two table to capture factors having a potential impact on the situation. Questions that guide the participants may be included in this table, or provided in flip-charts or handouts.
<table><tr><th>Strengths</th><th>Weaknesses</th></tr><tr><td>What do you do well?
What are your strengths?
What resources can you draw upon?</td><td>What could you improve?
What are others likely to see as your weakness?</td></tr><tr><th>Opportunities</th><th>Threats</th></tr><tr><td>What opportunities are open to you?
What trends could you take advantage of?
How can you turn strengths into opportunities?</td><td>What threats could harm you?
Who is the source of threats?
What threats do your weaknesses expose to you?</td></tr></table>
• Create small working groups and instruct each group to appoint a facilitator and a note-taker. The facilitator must guide the discussion while remaining impartial and supportive.
• Rotate among the groups to check that they are focused, and to provide assistance if required. A bell or other sound marking each quarter of the allocated time can help participants to manage their time. The note-taker will add key points into the matrix as the group agrees on them.
• Conclude the working session and have the groups report back in plenary.</td></tr>
</table>

	• Lead a collaborative discussion that identifies priority areas for action. Record the key reflections and next steps. • 8. Ensure appropriate follow-up to the activity. Ideally the group should be composed of 8 - 12 participants representing diverse relevant roles and ideally including decisionmakers. Alternatively, up to 40 participants if using subgroups. Online SWOT: If your participants have adequate internet connections, you can convene a SWOT in a web conferencing tool (e.g. Skype for Business, Adobe Connect, GoToMeeting, etc.). Use audio, not text chat, to gather inputs, but prefer no video unless all participants have excellent bandwidth. Do not exceed 10-12 participants. Check periodically.
Benefits	SWOT is an adaptable and flexible method, allowing for different perceptions to be recorded, and it directs the attention of those involved towards joint action. This method is useful to encourage many people to share their inputs, helping them think about potential solutions and constraints, for example, as part of a strategic planning process. SWOT can also take past mistakes or weaknesses and transform them into constructive learning processes. It can help make complex problems easier to deal with, in the shortest time possible. It is a useful starting point for a group self-evaluation.
Risks	The method should not be used as an end in itself. Its value lies in using it as a step in a process. The more subtle aspects of a scenario should not be neglected, as they can sometimes be overlooked in favor of grand or dramatic SWOT indicators. Ensure that the participants devote an appropriate amount of time to each of the four areas to create a balanced picture of the issue. There are limitations in SWOT, it will not fix anything unless you aim to actually apply and utilize what you have defined.
Required tools	Flip charts, paper hanging on the wall, a white- board, colored cards, copies of the two-by-two table, Pencils and markers
Timeframe	1 hour for quick SWOT; 2 hours for normal SWOT, or up to a half-day SWOT workshop for major initiatives; preparation time must be added. Suggestion on the break-down of activities for a 1h30 session: • Introduction to the method (5 minutes) Individual reflection and preparation (15 minutes) • Group based work on the four factors (45 minutes) • Collective debriefing (25 minutes)
Required skills and resources	Facilitator, rapporteur, supporting team
Comments	This method could be embedded in the evaluations made at the early stages of a mandate (problem formulation)
Useful links	http://acnudh.org/wp-content/uploads/2011/11/slitoolkit.pdf http://www.mspguide.org/tool/swot-analysis

Examples	Payments for Forest Ecosystem Services SWOT Analysis and Possibilities for Implementation https://ec.europa.eu/jrc/en/publication/payments-forest-ecosystem-services-swot-analysis-and-possibilities-implementation

TOP 100 list

General outline	
Method	TOP 100 list
Short description	The TOP 100 list is an approach for capturing a high level and large number of ideas and a technique that calls for participants' contributions. The technique is very simple in principle: state your issue or question in the top of a blank sheet of paper and come up with a list of one hundred answers or solutions about it.
Objective	• To generate ideas • To encourage creativity and thinking out of the box • To brainstorm with structure • To break the ice • To activate past learning.
Target	Researchers, CSOs, Users, Industry, consumers, citizens
Geographical scope	Global, European, Local
Online/offline	Offline
Impacts	Consult, Involve
Engagement stream(s)	'Preparedness'
Engagement window ('Quality of science' stream only)	Not applicable
Implementation	
Detailed description	• Begin by identifying the issue to be tackled with a list of possible solutions and related ideas. • Prepare an adequate space in the room to make the Top 100 list accessible to all (with flip charts, paper hanging on the wall, a white- board, coloured cards, or a collective notepad). • Write the problem at the top of the working space, followed by the numbers 1 to 100. The high number is what makes the method effective. It forces a profound level of reflection that reaches all corners of the mind. • Ask participants to come up with their ideas as quickly as possible. All ideas should be recorded, even if they seem obscure or irrational. The first 30 ideas tend to be the obvious ones, as they stem from the recent memory or most-repeated

	experiences of participants. The next 40 ideas will begin to demonstrate patterns and trends. These ideas tend to be the most difficult to generate because they require diverging from the habitual approach. The final 30 entries are often the most imaginative and innovative, perhaps even absurd, because by this time the most common options have already been exhausted. This is the most profitable phase of the process, where shifts in perspective are most likely to occur. • Lead a reflection process once 100 ideas have been produced. This should examine the general trends and patterns, as well as the plausibility of the entries themselves. • The information can then be used in a variety of complementary exercises that analyze and use the information produced. One approach is to cluster and then prioritize the points, as after a brain- storming session. • Reproduce the list in a reusable format in order to include it in the end-of-activity report, or on the Intranet. Almost any subject can be addressed with a Top 100 List. Whether you do this on an individual or group level will depend on the objectives. The Top 100 List can also be used as a "background activity" during a learning event. Start the Top 100 list on a flipchart and make it available for participants to write down ideas throughout the duration of the activity. Participants may come up with ideas during the activity, particularly during breaks, they can write these down on the list. This ensures that loose ideas that would perhaps be lost, are captured. Instruct participants to use acronyms and short forms, and to avoid full sentences as they consume precious time and energy.
Benefits	The List of 100 is a powerful technique that can be used to generate ideas, clarify thoughts, uncover hidden problems or get solutions to any specific questions. The technique is very simple in principle and is a form of cooperation between the conscious and subconscious minds tackling one single problem. The technique is based on the concept of getting good ideas from lots of ideas. With a List of 100 method you tend to get more unexpected ideas, because you catch your subconscious off guard, not giving it any time for its behind-the-scenes editing.
Risks	• Time constraints may hinder the completion of the list. Be sure to provide enough time to complete the list, because it is only effective when done in one sitting or in one specific, dedicated period (for example, over a three-day training event). • Distractions may affect the action. Rid the room of all distractions. This includes turning off mobile devices and finishing any drinks. • Repeated ideas may provide clues to the thought processes of participants. Therefore, address them only at the end of the session.
Required tools	Flip charts, paper hanging on the wall, a white- board, coloured cards, or a collective notepad

Timeframe	It can be used in the course of a 1-3 day event
Required skills and resources	Facilitator, personnel already engaged in an event
Comments	
Useful links	http://acnudh.org/wp-content/uploads/2011/11/slitoolkit.pdf
Examples	http://itcilo.wordpress.com/2010/09/06/100-facilitation-tips/

TOPSY TURVY (or Reverse Brainstorming)

General outline	
Method	TOPSY TURVY (or Reverse Brainstorming)
Short description	Topsy Turvy (also known as reverse brainstorming) is a method for generating creative, unconventional ideas and solutions, and for mobilizing untapped energies. It can be particularly useful for addressing recurring problems and issues. As the name suggests, the process involves turning a discussion 'upside down' by posing a question that runs counter to your real objectives, and encouraging participants to contribute negative or even anarchic ideas. These ideas are then reversed to formulate positive solutions. Taking an initially negative or 'destructive' approach to the discussion gives participants free rein to explore the flip side of an issue or problem, and thus spurs creativity.
Objective	• To Generate original and potentially effective approaches to recurring issues or problems. • To grasp the causes of a problem openly
Target	Researchers, Users, Industry, NGOs, CSOs
Geographical scope	Local
Online/offline	Offline
Impacts	Inform, Consult, Involve
Engagement stream(s)	'Preparedness', 'Quality of science'
Engagement window ('Quality of science' stream only)	Pre-mandate
Implementation	
Detailed description	Topsy Turvy is easy to implement and can be used to: • Generate original and potentially effective approaches to recurring issues or problems. Instead of asking people familiar questions that generate the usual responses, Topsy Turvy helps establish a fresh perspective and encourages new ideas or

	thinking outside the box. By getting people to think of how things can go wrong, the method allows them to grasp the causes of a problem openly, without fear of being deemed pessimistic, and to explore negative aspects which are usually ignored – even though they may be important to consider. In turn, this leads to renewed interest in an issue and encourages participants to steer away from stale, uninspired solutions. • Break up the monotony of group activities. Schedule Topsy Turvy between group work sessions, or slot it in just before an afternoon group activity to raise participants' energy levels. But don't overuse it: Topsy Turvy works best as a way of adding variety, not as a steady diet. • Kick off a workshop. Use Topsy Turvy as an icebreaker to discuss workshop rules in the first session. How to apply the method: • Clearly identify the problem or issue to be discussed and on that basis, formulate a negative question. • Write the question on the top of a flipchart board for participants to see. • Reading out the question and ask participants to share their 'destructive' ideas without censoring their thoughts. • Encourage the feeling of chaos by prompting participants for anarchic, disruptive suggestions. Tell them that any ideas, no matter how wacky, are welcome. • As people share ideas, write them down on the flipchart. You can also use cards to collect ideas. • When the ideas begin to dwindle, stop the process – normally within 10 - 15 minutes. • Next, turn all the negatives into positives: Take each negative idea and rewrite it as its positive mirror opposite. The method can be applied in a group of ideally 10 - 20 people.
Benefits	Instead of asking people familiar questions that generate the usual responses, Topsy Turvy helps establish a fresh perspective and encourages new ideas or thinking outside the box. By getting people to think of how things can go wrong, the method allows them to grasp the causes of a problem openly, without fear of being deemed pessimistic, and to explore negative aspects which are usually ignored – even though they may be important to consider.
Risks	The method may initially create some sense of confusion
Required tools	Flipchart board 2 flipcharts with plenty of paper Rectangular cards, in two colours (VIPP cards) Marker pens
Timeframe	20 - 30 minutes
Required skills and resources	Facilitator

Comments	When deciding whether to use Topsy Turvy, be sure that there is receptivity for truly innovative solutions and approaches that could result in substantial change. If you are only looking for limited improvements in a process, or small fixes to a problem, Topsy Turvy may not be the best approach; but if you want to tackle something difficult or find a broad-ranging solution, it may be just what you need.
Useful links	https://www.unicef.org/knowledge-exchange/files/UNICEF_Knowledge_Exchange_Toolbox.pdf
Examples	

User committee

General outline	
Method	User committee
Short description	This method involves users and other stakeholders in the formal monitoring and steering of the research and innovation process.
Objective	Involvement of stakeholders in the formal monitoring and steering of the research and innovation process.
Target	Researchers, CSOs, consumers, industry, risk assessors
Geographical scope	European, national, regional, local
Online/offline	Offline
Impacts	Involve
Engagement stream(s)	'Preparedness', 'Quality of science'
Engagement window ('Quality of science' stream only)	Pre-mandate, Plan, Do, Verify, Report
Implementation	
Detailed description	This method involves users and other stakeholders in the formal monitoring and steering of the research and innovation process. The Dutch Responsible Innovation Program (NWO-MVI) has required valorisation panels since 2009. In the 2014 call, the following instructions for the user-committee were given: "Applicants must always put together a valorisation panel and produce a valorisation plan. Besides representatives of the private partners, the valorisation panel includes all other actual and potential users and/or user groups. Relevant societal stakeholders can also be included in the valorisation panel. Also, representatives from organisations that are willing to disseminate the research results and to valorise these among the target group that they represent can be included in the valorisation panel. The valorisation panel is put together during the drawing up of the full

	proposal, is involved in writing the proposal, and remains involved in the project throughout its entire duration. More specifically, the valorisation panel's main task is to contribute its knowledge and expertise, and to confront the researchers with the everyday user practice, so that the researchers can incorporate this in their choices. At the very least it has a supportive role in: • Articulating the research question • Drawing up the valorisation plan • Reporting about the research • Disseminating and communicating the research results The valorisation plan is aimed at making the relevant research results available for and usable by top sectors (research priority conglomerates, ed.), societal partners and/or other interested parties from inside and outside of the established scientific community. Besides an overview of the costs associated with the valorisation, it also describes the role of the valorisation panel. Applicants of research proposals awarded funding are required to organise an initial valorisation workshop immediately after the start of the project. The results of the first workshop will be monitored by the MVI Steering Group. Applicants from projects awarded funding will receive further information about this with the funding decision. They will also be informed about how the valorisation pathway will be monitored throughout the course of the project".
Benefits	Instrumental (and democratic) value in making input to research and innovations that are in-line with users' (and societal) needs and demands. Applicable in any (multi-disciplinary) field.
Risks	Strongly dependent on how the engagement process within the committee works and who is represented. Typically, there is a kick-off, a mid-term, and a final workshop. How these workshops are shaped is still open. Also, the consulting process during the writing of the proposal for the research is not defined. Representativeness of the committee (typically, there are many representatives of industry as 'users', instead of the end-user (the consumer); also, CSOs are underrepresented (typically, most NGOs that participate represent a branch organisation).
Required tools	
Timeframe	Required preparation time totally depends on pre-existing contacts with relevant stakeholders. The committee engagement is continuous from the writing of the proposal, throughout the research activity, and through to the dissemination phase.
Required skills and resources	Subject-matter expertise: Advanced IT skills: Basic Facilitation skills: Intermediate Event organisation skills: Basic Project management skills: Intermediate
Comments	Similar to SEA's Bureau and Forum
Useful links	http://actioncatalogue.eu/method/7441

Examples	http://responsibleinnovation.eu/research/mviproject_information https://www.nwo.nl/en/about-nwo/organisation/nwo-domains/ttw/industry+and+other+partners/what+does+nwo+offer/user+committees

VIPP Cards Collection Clustering

General outline	
Method	VIPP Cards Collection Clustering
Short description	VIPP (Visualisation in Participatory Programmes) Card Collection and Clustering is a facilitated process that involves the use of cards to quickly gather and organize ideas from a group of people. It is especially useful in situations where you expect to get a diverse range of answers or inputs, or for addressing potentially sensitive issues in a way that is both safe and equitable. The process starts with a well-defined open-ended question. Participants write ideas onto cards and then cluster them based on similarities. The clusters can be prioritized as a basis for subsequent action, or they can be used for further discussion and development, as needed.
Objective	• To introduce a topic or theme at the beginning of a workshop/ multi-session event. • To provide an alternative to a formal podium presentation or keynote with experts. • To elicit knowledge from resource persons without requiring them to do a lot of preparation. • To introduce new concepts or potentially 'hot topics' that participants may be curious about but have little knowledge of.
Target	Researchers, Users, Industry, NGOs, CSOs
Geographical scope	Global, European, Local
Online/offline	Offline
Impacts	Inform, Consult
Engagement stream(s)	'Preparedness'
Engagement window ('Quality of science' stream only)	Not applicable
Implementation	
Detailed description	VIPP Card Collection and Clustering is best used in group settings to generate ideas quickly, to organize and prioritize ideas based on the input of the group, and to gather opinions. It is a more interesting way to accomplish these tasks than a routine plenary meeting, and usually

	generates significantly better results. It also levels the playing field and ensures greater diversity of inputs, by preventing the discussion from being dominated by only a few voices. All ideas and inputs are considered through the same open process. Card Collection and Clustering is suitable for groups of 10 - 20 participants. Larger groups should first be divided into smaller ones of no more than 20 participants; each group does the exercise separately with its own facilitator **Variants:** **Multiple questions**: You can use Card Collection and Clustering to generate ideas for multiple questions. Assign a specific colour of card to each question, and run the questions through the process one after another. **Preassigned categories**: If you know in advance that the responses are likely to cover certain particular topics or categories of response, then you can pin up cards with those categories before the session begins. Proceed with card writing as normal; then ask people to come up individually to pin their cards under the categories. **Non-anonymous responses**: If your topic clearly does not require, or benefit from, anonymous responses, then instead of collecting responses in a box and reading them out, you can ask participants in turn each to read out one of their cards and suggest a category for it.
Benefits	Card Collection and Clustering is beneficial for: • Generating creative ideas at an early stage of a workshop or a planning process, and assigning priorities. Once ideas are collected and clustered by theme, the clusters can be used as inputs into subsequent group work. • Combining and harmonizing diverging ideas and opinions, for example if your group includes individuals from different departments, or people with differing professional or cultural backgrounds. • Ensuring that more unusual or creative ideas are captured and documented, particularly if those generating such ideas are junior or 'outsiders' who may feel nervous in front of more experienced colleagues in plenary sessions. • Helping to overcome the inhibiting influence of hierarchies, when input is needed from many people on a sensitive topic. • Surfacing workplace issues. People can share their views anonymously by writing on cards.
Risks	
Required tools	Pin board and pins Flipchart paper Rectangular cards, in several colours (10 x 20 cm/ 4 x 8 inch) Marker pens (one colour only)
Timeframe	45 - 60 minutes
Required skills and resources	Facilitator

Comments	https://www.unicef.org/knowledge-exchange/files/UNICEF_Knowledge_Exchange_Toolbox.pdf
Useful links	http://actioncatalogue.eu/method/7441
Examples	http://responsibleinnovation.eu/research/mviproject_information https://www.nwo.nl/en/about-nwo/organisation/nwo-domains/ttw/industry+and+other+partners/what+does+nwo+offer/user+committees

Vision factory

General outline	
Method	Vision factory
Short description	A Vision Factory is a combination of World Cafés for the future development of complex topics, e.g. urban development or restructuring of companies. It starts with several target group specific World Cafés in order to consider their specific requirements and opinions related to the topic of interest. Based on the results of these World Cafés, guiding questions for the "main event" (Vision Factory) are defined. For this event, representatives from all target groups are invited to discuss about the topic under consideration of the specific requirements. Result is a vision of the future for the respective topic with a longer time horizon (5-20 years).
Objective	• To develop a long-term strategy or vision of the future for the respective topic with a longer time horizon (5-20 years). • To create engagement and consensus on a joint vision. • To deal with complex topics involving the interests and needs of different target groups.
Target	Researchers, academia, industry, NGOs, consumers, citizens, risk assessors
Geographical scope	Local, national, European
Online/offline	offline
Impacts	Inform, Consult, Involve
Engagement stream(s)	'Preparedness'
Engagement window ('Quality of science' stream only)	Not applicable
Implementation	
Detailed description	Pay early attention to the reason for organizing the Vision Factory. Based on this, it is possible to decide which kind of target groups are

	relevant and which parameters are important to achieve your desired result of the method. It is very important to find and frame topics or questions that matter to the identified target groups. The Vision Factory conversations are about discovering and exploring powerful topics/questions. Usually a complex topic is being dealt. Thus, the advice is to split it in sub-topics. To each sub-topic you assign one discussion table at the main event. Define also what kind of results can be obtained from the method. This has impact on the definition of guiding questions for the target group specific events. After the definition of the purpose, the target groups have to be determined. In this context, it is necessary to decide on a maximum number of participants for both the target group specific events and the main event. The former ones should have 10-20 participants, the latter one up to 100. The implementation of target group specific events should consider the respective characteristics of the groups. Consider different communication channels to invite target. Implementation of the Vision Factory: • The event starts with a welcome from the organizer and an introduction by the moderator to the participants. In the first round (ca. 30 minutes), the requirements of the topic are discussed at each table. The goal is a poster with clustered requirements and challenges related to the table topic. This is the starting point and basis for the development of the vision. Participants discuss and write down the requirements and challenges. The co-moderator of the table explains the task, moderates the discussion and clusters the written input. • In the second round (ca. 1 hour), the participants make a journey into the future. They discuss and write down imaginations and concrete ideas about the ideal state in the topic area. The achieved future will be illustrated by examples. The participants should agree on 3 to max. 5 key messages (vision cores). These vision cores summarize the ideas and stand as guiding themes above them. If necessary, participants may use glue dots for prioritization. • In the next round (ca. 1 hour), the visions are concretized and visualized by the participants. The participants transfer the vision cores to a table poster. They discuss how these participants transfer the vision cores to a table poster. They discuss how these visions could be achieved. The participants then make a selection for further processing, regarding the most important points and actions. On the table poster, they should clarify the areas where they want to visualize something. Then the participants should divide into (two / three) groups. Each group takes on a specific visualization task (by handicrafts, drawings…). Then they prepare the results for plenary presentation and discussion and select a participant to do so. The result is a large table poster / collage with the vision cores, on which the most important points and actions for the subject area are to be seen, with reference to which needs / wishes are met here as well. Possibly also connections between these

	actions, points of conflict and first recommendations for action (in the sense of a back casting, i.e. based on the desired future condition, think of ways and instruments that could lead there). • Afterwards, during a larger break (ca. 1 hour), participants can visit other topic tables, have a look at the clustered ideas and vision cores and leave comments via post-its. • After the break, a plenary presentation and discussion of the tables´ results takes place (ca. 2 hours). The discussion covers the identification of special features, overlaps and synergy potentials as well as potential points of conflict. In addition, further suggestions, concerns and criticisms should be collected. The participants should also comment on how they would contribute to achieve the vision cores. • At the end of the event, the moderator gives an outlook on what will happen to the results and what the future course of the project looks like.
Benefits	
Risks	There could be potential for conflict between different target groups at the main event.
Required tools	Provide a kind of guidelines/screenplay for the moderator(s) and table hosts. Also, templates for documenting the discussions are helpful. Define guiding questions for the participants to support a logical progression of discovery throughout several discourse rounds. Well-defined questions focus the attention of participants to what really matters. Open-ended questions are recommended.
Timeframe	3-6 months for the implementation of the method. During this duration, the target group specific World Cafés and the Vision Factory have to be implemented. For the organization of a single event please refer to the method World Café regarding timeline and logistics. The difference of the Vision Factory compared to the single World Cafés is the longer duration (4-6 hours). Depending on the target groups and the organizer, the Vision Factory should be planned for a Saturday or Sunday.
Required skills and resources	A facilitator, owing the know-how and the experience in the organization and moderation of the workshop. Social scientists are very well suited for such events. The moderation of the event is crucial.
Comments	An event organizer should be involved. It is recommended to charge a professional moderator (as the café host) with the overall moderation of the events (World Cafés + Vision Factory). Could work in some specific reflexions involving stakeholders such as strategy definition
Useful links	https://www.user-participation.eu/planning-the-process/step-5-participatory-methods/planning-the-future-visions-strategies-projects/vision-factory

Examples	https://www.user-participation.eu/planning-the-process/step-5-participatory-methods/planning-the-future-visions-strategies-projects/vision-factory/showcase-vision-factory

ANNEX II - Best Practices from EU and International entities

Stakeholder Engagement – EU Agencies

European Union Aviation Safety Agency (EASA)

Engagement method	**Advisory Board Collaborative Platform**
Agency	The European Union Aviation Safety Agency or EASA is an agency of the European Union (EU) with responsibility for civil aviation safety. It carries out certification, regulation, and standardisation, and also performs investigation and monitoring. It collects and analyses safety data, drafts and advises on safety legislation, and coordinates with similar organisations in other parts of the world
Name of the activity	Advisory Board Collaborative Platform
Description	An online communication platform was put in place to allow for horizontal communication by Advisory Board members. A large number of proposed Agency actions directly affect the Member States and the Industry. So called advisory bodies provide the Agency with a forum for consultation of interested parties and national authorities on Agency priorities, both at strategic and technical level. Consultation covers all aspects of the rulemaking process. They also advise the Agency on EU wide safety priorities, strategic and horizontal issues. They are key contributors to the Agency Rulemaking Programme and the European Plan for Aviation Safety
Timeframe	ongoing
Link	https://www.eesc.europa.eu/en
Comments	

European Chemicals Agency (ECHA)

Engagement method	**Network**
Agency	The European Chemicals Agency (ECHA) is an agency of the European Union which manages the technical and administrative aspects of the implementation of the European Union regulation called Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH)
Name of the activity	NeRSAP
Description	NeRSAP has been set up to exchange on advances and review of concepts, methods and experiences focused on practical

	concepts for Socio-economic Analysis (SEA) and Analysis of Alternatives (AoA) on EU-wide or national chemicals management implementation. It is set up in collaboration between ECHA, Member States and stakeholders from industry and NGOs. Given REACH SEAs and AoAs are in general prepared by SEA and AoA practitioners for their clients being it industry, Member State authorities, ECHA, the Commission, or others, the NeRSAP network welcomes practitioners with regulatory, academic or consultancy background with demonstrated experience in the field of REACH and/or EU or national chemicals legislation.
Timeframe	ongoing
Link	https://echa.europa.eu/fr/support/socio-economic-analysis-in-reach/network-of-reach-sea-and-analysis-of-alternatives-practitioners
Comments	

EIP-AGRI

Engagement method	**Focus groups**
Agency	In February 2012, the European Commission launched the EIP Agricultural Productivity and Sustainability – otherwise known as the EIP-AGRI. The main objective of this particular European Innovation Partnership is to bridge the gap between agricultural researchers and practitioners. It encourages those involved in different segments of the agri-food system (farmers, businesses, researchers and advisors) to share their ideas and experiences. Working together, they are expected to devise innovative responses to problems and to develop academic findings into practical applications, thereby "delivering solutions that are well adapted to circumstances and which are easier to implement."
Name of the activity	EIP-AGRI - Focus Group on Protein Crops
Description	The Focus Group on Protein Crops of the European Innovation Partnership addressed the challenge of improving the profitability of protein crops in Europe in order to make it an attractive crop for farmers while satisfying the requests of the animal feed industry (and to some extent the food industry) and promoting more technically, economically and environmentally sustainable European agricultural production systems. With this as objective, a group of 20 experts from across Europe assessed the challenge and identified possible solutions.
Timeframe	2014

Link	https://ec.europa.eu/eip/agriculture/sites/agri-eip/files/fg2_protein_crops_final_report_2014_en.pdf
Comments	

European Citizen Science Association (ECSA)

Engagement method	**Network of researchers and communicators** - Citizens science
Agency	The European Citizen Science Association (ECSA) is a non-profit association set up to encourage the growth of the Citizen Science movement in Europe in order to enhance the participation of the general public in scientific processes, mainly by initiating and supporting citizen science projects as well as performing research on citizen science.
Name of the activity	ECSA Network of researchers and communicators
Description	ECSA is framing citizen science as an open and inclusive approach, for example by supporting and being part of the exploration, shaping and development the different aspects of the citizen science movement, its better understanding and use for the benefit of decision making. ECSA's thematic working groups undertake the major part of the activities. They focus on research, exchange of experience and capacity building and are open to our members and supporters. Membership of working groups requires a time commitment to attend meetings and undertake tasks. ECSA is framing citizen science as an open and inclusive approach, for example by supporting and being part of the exploration, shaping and development the different aspects of the citizen science movement, its better understanding and use for the benefit of decision making. ECSA draws on +200 individual and organizational members from over 28 countries across the European Union and beyond. Launched during the EU GREEN WEEK in June 2013, ECSA has grown from an informal network of researchers and communicators interested in Citizen Science into the European reference network of Citizen Science initiatives. ECSA offers the opportunity to interact among groups and disciplines that already have or want to build a relation to citizen science, through activities in H2020 projects, contributing to policy briefs, the open science policy platform and being part of the development of principles for good practice in citizen science.
Timeframe	ongoing
Link	https://ecsa.citizen-science.net/
Comments	

European Cooperative Programme for Plant Genetic Resources (ECPGR)

Engagement method	Online Platform
Agency	The European Cooperative Programme for Plant Genetic Resources (ECPGR) is a collaborative programme among most European countries aimed at ensuring the long-term conservation and facilitating the increased utilization of plant genetic resources in Europe.
Name of the activity	European Search Catalogue for Plant Genetic Resources (EURISCO)
Description	The European Search Catalogue for Plant Genetic Resources (EURISCO) provides information about more than 2 million accessions of crop plants and their wild relatives, preserved *ex situ* by almost 400 institutes. It is based on a network of National Inventories of 43 member countries and represents an important effort for the preservation of world's agrobiological diversity by providing information about the large genetic diversity kept by the collaborating institutions. Between 2003 and 2014, EURISCO was hosted and maintained by Bioversity International, Rome, Italy. Since 2014, EURISCO is being maintained at the Leibniz Institute of Plant Genetics and Crop Plant Research (IPK), Gatersleben, Germany. The central goal of EURISCO is to provide a one-stop-shop for information for the scientific community and for plant breeders. EURISCO contains both passport data and phenotypic data. EURISCO is being maintained on behalf of the Secretariat of the European Cooperative Programme for Plant Genetic Resources (ECPGR), in collaboration with and on behalf of the National Focal Points for the National Inventories.
Timeframe	ongoing
Link	https://eurisco.ipk-gatersleben.de/apex/f?p=103:1:0:::::
Comments	

European Commission and the European Economic and Social Committee (EESC)

Engagement method	Platform + discussion forum
Agency	The European Circular Economy Stakeholder Platform was launched as a joint initiative by the European Commission and the European Economic and Social Committee (EESC) in March 2017.
Name of the activity	European Circular Economy Stakeholder Platform
Description	The two institutions are working closely together to develop the Platform as a space for the exchange of ideas and a growing

	body of information, and to make the circular economy happen faster to the benefit of all. The Platform brings together stakeholders active in the field of the circular economy in Europe. On the virtual platform stakeholders can **contribute** by submitting content for the website (good practice, publication, event, network, etc.), **engage** with other stakeholders on the discussion forum and **stay abreast** with all ongoing activities of the Platform by subscribing to the newsletter.
Timeframe	ongoing
Link	https://circulareconomy.europa.eu/platform/
Comments	

Stakeholder engagement – International Agencies

The International Center for Tropical Agriculture (CIAT)

Engagement method	**Gamification**
Agency	The International Center for Tropical Agriculture - CIAT is a not-for-profit research and development organization dedicated to reducing poverty and hunger while protecting natural resources in developing countries. In 2019, CIAT joined with Bioversity International (as the Alliance of Bioversity International and CIAT) to "deliver research-based solutions that harness agricultural biodiversity and sustainably transform food systems to improve people's lives"
Name of the activity	Gamification of farmer-participatory priority setting in plant breeding: Design and validation of "AgroDuos"
Description	Participatory methods to characterize farmers' needs and preferences play an important role in plant breeding to ensure that new varieties fulfill the needs and expectations of end users. Different farmer-participatory methods for priority setting exist, each one responding differently to trade-offs between various requirements, such as replicability, simplicity, or granularity of the results. All available methods, however, require training, academic skills, and staff time of specially qualified professionals. Breeding and variety replacement may be accelerated by empowering non-academic organizations, such as NGOs and farmer organizations, to carry out farmer-participatory priority setting. But for this use context, currently no suitable method is available. A new method is needed that demands relatively low skill levels from enumerators and respondents, engages farmers without the need for extrinsic incentives, and gives statistically robust results. To achieve these objectives, CIAT followed principles of "gamification" in the design of AgroDuos, a choice experiment that resembles a card game and that involves pairwise ranking of variety traits. CIAT

	tested the method in a pilot with 39 farmers in Honduras to define their trait priorities for common bean (*Phaseolus vulgaris* L.). To validate the results, CIAT independently carried out conjoint analysis, an established method for priority setting in plant breeding. AgroDuos produced valid and useful results while enabling rapid, easy, and engaging data collection. Challenges persist concerning local adaptation and data analysis by non-specialist staff, which may be resolved in the future by providing templates and online support.
Timeframe	2017
Link	https://www.bioversityinternational.org/news/detail/participatory-research-is-a-serious-game/
Comments	

Biodiversity International

Engagement method	**Crowdsourcing software**
Agency	Biodiversity International is a global research-for-development organization. Bioversity International delivers scientific evidence, management practices and policy options to use and safeguard agricultural and tree biodiversity to attain sustainable global food and nutrition security. The agency works with partners in low-income countries in different regions where agricultural and tree biodiversity can contribute to improved nutrition, resilience, productivity and climate change adaptation.
Name of the activity	Climmob
Description	Climmob is a software for crowdsourcing climate smart-agriculture. Climmob, created by Jacob van Etten and developed by Bioversity International, turns the research paradigm on its head; instead of a few researchers designing complicated trials to compare several technologies in search of the best solutions, it enables many farmers to carry out reasonably simple experiments that taken together can offer even more information.
Timeframe	ongoing
Link	https://climmob.net/
Comments	

Consultative Group for International Agricultural Research (CGIAR)

Engagement method	**Data Platform + digital innovation process**

Agency	CGIAR (formerly the Consultative Group for International Agricultural Research) is a global partnership that unites international organizations engaged in research about food security. CGIAR research aims to reduce rural poverty, increase food security, improve human health and nutrition, and sustainable management of natural resources. It is carried out at 15 centers (CGIAR Consortium of International Agricultural Research Centers) that collaborate with partners from national and regional research institutes, civil society organizations, academia, development organizations, and the private sector focusing on agricultural research for sustainable development.
Name of the activity	Platform for Big Data in Agriculture
Description	The Platform for Big Data in Agriculture harnesses the power of big data for agricultural research and development. It is one of three CGIAR research platforms and it is carried out with support from the CGIAR Trust Fund, UKAID and through bilateral funding agreements. The platform hosts the '**Inspire challenge:** Demonstrating the power of big data analytics through inspiring and innovative projects'. The Inspire Challenge is an initiative to challenge partners, universities, and others to use CGIAR data to create innovative pilot projects that will scale. They look for novel approaches that democratize data-driven insights to inform local, national, regional, and global policies and applications in agriculture and food security in real time; helping people–especially smallholder farmers and producers–to lead happier and healthier lives. The Inspire Challenge team seeks co-investors and thought partners to strengthen the incubation to acceleration pipeline for digital agriculture: co-invest, co-create, co-lead.
Timeframe	ongoing
Link	https://bigdata.cgiar.org/inspire/#
Comments	The Inspire Challenge has so far awarded more than US$2.5 million in grants to 18 projects.

Engagement method	**Software tool for surveys – open-access dataset**
Agency	CGIAR
Name of the activity	The RHoMIS tool
Description	RHoMIS was designed to improve the process of gathering information from farming households in the rural developing world. Household surveys are very widely carried out, but the data is rarely comparable, and so the opportunities for learning between individual projects are limited. For these reasons, the

	tool balances standardisation with flexibility. RHoMIS was also designed to reduce costs, time requirements, and reporting burdens for those who carry out household surveys. Internationally recognized indicators are used, and reflexive learning since 2015 has led to a smooth and rapid questionnaire, which gathers considerable detail in a relatively short amount of time. The RHoMIS tool is built using open source software. The survey is delivered using Android mobile or tablet devices and the ODK software suite. Indicators are calculated and analyses returned using the R programming language.
Timeframe	ongoing
Link	more than 30,000 interviews conducted in 33 countries (the publication only analyzed interviews through mid-2018). Data are collected on tablets or smartphones, which can be solar powered for use in remote regions. Broad adoption of this standardized survey tool may help guide international efforts to address smallholder challenges related to climate change, food security, nutrition, farm productivity and social inclusion.
Comments	https://www.rhomis.org/

Center for International Forestry Research (CIFOR)

Engagement method	**Knowledge Fair - Open space – Peer Assist**
Agency	The Center for International Forestry Research (CIFOR) is a non-profit scientific research organization that conducts research on the use and management of forests with a focus on tropical forests in developing countries. CIFOR is the forestry research center of the Consultative Group on International Agricultural Research (CGIAR)
Name of the activity	CIFOR's annual meeting
Description	In 2004 CIFOR piloted an innovative format for its annual meeting. During the previous years staff member had commented that the institution had become to much compartmentalized, with scientists working mainly within the orbits of their own programs. The event lasted 5 days: • On Monday a Knowledge Fair features workshops, presentations, poster displays, and videos relating to research conducted by CIFOR and its partners. Parallel workshops in the morning cover three topics. • Tuesday and Wednesday an Open Space. • Thursday Peer Assist and closure. • Friday Program meetings
Timeframe	Pilot activity from 2004 to 2005

Link	At the end of the meeting participants were asked to complete an evaluation form. 72 of the 100 participants did so. By the participants the opportunities for engaging in discussion and knowledge sharing was especially appreciated. Participants mentioned they would like to apply peer-assists' method to scientific issues.
Comments	Sharing Solutions for a CGIAR without Boundaries

The Food and Agriculture Organization (FAO)

Engagement method	**Online platform**
Agency	The Food and Agriculture Organization (FAO) is a specialized agency of the United Nations that leads international efforts to defeat hunger. Our goal is to achieve food security for all and make sure that people have regular access to enough high-quality food to lead active, healthy lives. With over 194 member states, FAO works in over 130 countries worldwide.
Name of the activity	AGRIS platform
Description	AGRIS is the International System for Agricultural Science and Technology, a multilingual bibliographic database that connects users directly to a rich collection of research and worldwide technical information on food and agriculture. One of the world's leading public information services that offers 11,714,169 bibliographic records produced by more than 500 data providers including research centers, academic institutions, publishers, governmental bodies, development programmes, international and national organizations from 148 countries. More than 400,000 agricultural and research professionals worldwide access AGRIS resources each month. Maintained by the Food and Agriculture Organization of the United Nations (FAO), AGRIS has been serving users from developed and developing countries through facilitating access to knowledge in agriculture, science and technology since 1974. While AGRIS is predominantly a bibliographic database, it also provides full text links to about 3 million of its records. It facilitates access to publications, journal articles, monographs, book chapters, and grey literature - including unpublished science and technical reports, theses, dissertations and conference papers in the area of agriculture and related sciences. Most of the AGRIS records are indexed by AGROVOC, the FAO multilingual Thesaurus. AGRIS is also indexed and made accessible via Google Scholar, thus extending the global access.
Timeframe	Ongoing
Link	http://agris.fao.org/agris-search/info.action
Comments	Sharing Solutions for a CGIAR without Boundaries

Engagement method	Online survey
Agency	FAO
Name of the activity	Global Forum on Food Security and Nutrition • FSN Forum online survey
Description	In April-May 2015 the Global Forum on Food Security and Nutrition (FSN Forum) conducted an online survey by using the SurveyMonkey tool. The goal was to gain a deeper knowledge of the Members' expectations and level of satisfaction. In addition, this survey was also an opportunity to collect inputs on ways to further improve the service offered and to gather suggestions for topics which our Members would be interested in. The survey comprised 17, both closed and open-ended questions and was available in English, French, Russian and Spanish and received harvested 215 responses: 128 in English, 40 in French, 32 in Russian, and 15 in Spanish.
Timeframe	April-May 2015
Link	http://www.fao.org/fsnforum/activities/online-surveys
Comments	http://agris.fao.org/agris-search/info.action

Engagement method	Knowledge fair
Agency	FAO
Name of the activity	Knowledge Share Fair in Niger
Description	By organising the Knowledge Share Fair in Niamey, the various parties involved in FAO's Knowledge Management and Gender (KMG) programme proposed a new way of exchanging knowledge on technical topics using a participatory approach. The aim of the fair was not only to boost the profile of the KMG programme, but also to initiate a process of exchanges of experience, knowledge and networking on topics of common interest to partners in West Africa. The event was attended by a range of people and organisations selected for their potential contribution to the exchanges, for the benefit they might derive from the presentations and for their interest in the programme's mission. Accordingly, producers' organisations mixed with NGOs and development projects, organisations interested in the topics covered by the KMG programme, technical services and UN agencies, students and researchers from universities or specialised agricultural training centres, and representatives of financial and technical partners and of FAO. The participants discovered new methods for sharing knowledge, such as: the maquis mondial (a French-language and African version of the 'world café'); the carrousel, a variant of the maquis mondial;

	peer assist; chat shows; proverbs; the tree of knowledge; exchange visits; presentations with debates; and many more.
Timeframe	November 2010
Link	http://www.fao.org/3/am036e/am036e01.pdf
Comments	FAO knowledge fairs best practices: http://www.fao.org/3/a-aq228e.pdf

Engagement method	**Community of Practice**
Agency	FAO
Name of the activity	FAO - Community of Practice on food loss reduction
Description	Members of the Community of Practice on food loss reduction access the Forum, participate in online discussions, get in touch with other practitioners, share and request relevant and updated information, contribute in building up a worldwide community aimed at reducing food losses and achieving food security.
Timeframe	ongoing
Link	http://www.fao.org/food-loss-reduction/en/
Comments	The CoP gathers practitioners and experts worldwide to share and disseminate information and practices. It offers the possibility to interact and collaborate, especially through its Forum

Engagement method	**Capacity Building Workshop**
Agency	FAO
Name of the activity	CAPFITOGEN Programme for the Strengthening of Capabilities in National Plant Genetic Resources Programmes
Description	The workshops contributed to improve skills and capacity of the technical staff in the area of conservation and sustainable use of plant genetic resources for food and agriculture. They also promoted the use and adoption of several data management tools adapted to the needs of the national programs of this region. Additionally, they help to gather information on the needs to further develop new tools within the framework of the Global Information System on Plant Genetic Resources referred to in the Article 17 of the International Treaty. These activities are funded by Spanish Government and have been organized with the support of the National Plant Genetic Resources Centre of the Spanish National Institute for Agriculture and Food Research and Technology (CRF-INIA), the

	Spanish Ministry of Agriculture, Food and Environment, the Polytechnic University of Madrid, the King Juan Carlos University, the National University of Colombia and the University of Santa Catarina in Brazil. Thanks to the generous contribution of Spanish Agency for International Development Cooperation (AECID), the Secretariat funded travel and accommodation expenses of one participant per Contracting Party.
Timeframe	ongoing
Link	http://www.fao.org/plant-treaty/tools/capfitogen/en/
Comments	The CoP gathers practitioners and experts worldwide to share and disseminate information and practices. It offers the possibility to interact and collaborate, especially through its Forum

Engagement method	**e-Conference**
Agency	FAO
Name of the activity	e-mail conference "Utilization of Food Loss and Waste as well as Non-Food Parts as Livestock Feed"
Description	The electronic conference on 'Utilization of Food Loss and Waste as well as Non-Food Parts as Livestock Feed' was held from 1 October to 30 October 2015. A background document was distributed before the conference introducing the topics of the conference and providing definitions and terms for a framework and an action plan on 'Food Loss and Waste plus Non-Food Part to Livestock Feed'. The document highlighted the importance and magnitude of food loss and waste and its impact on food security and on local and national economies. Without compromising animal health and welfare and animal product safety and quality, and meeting legislative requirements plant resources that are not used as food can be used as animal feed. The aims of the electronic conference were to discuss the scope and boundaries of the framework including the definition of food loss and waste; and explore the opportunities and possible constraints in implementation of the framework. During the first three weeks the conference was structured through a set of leading questions. The leading questions for the first week were about the definition of food loss and waste related to feed and an inventory of plant resources used for food and/or feed. The leading questions for the second week addressed issues of feed safety and technologies to utilize food loss and waste as animal feed including the roles of the food industry and the feed manufacturing industry, while those for the third week addressed the roles of researchers, Non-Governmental Organizations (NGOs), civil societies, farmers and

	policy makers in making use of food loss and waste and non-food parts of crops as feed. The fourth week provided opportunity to again discuss topics of the first three weeks and others not raised before. Most messages addressed either the leading questions or responded to previous messages.
Timeframe	from 1 October to 30 October 2015
Link	http://www.fao.org/save-food/news-and-multimedia/events/detail-events/en/c/325893/
Comments	The conference generated considerable interest, as shown by the large number of subscribers (630) and 254 messages that were received from 123 participants from 47 countries.

Engagement method	**Toolbox**
Agency	FAO
Name of the activity	Toolbox for Sustainable Use of Plant Genetic Resources for Food and Agriculture (PGRFA)
Description	Diversity in plant genetic resources for food and agriculture (PGRFA) is essential to sustain food, nutrition and economic security. The toolbox assists countries in designing and implementing measures to promote sustainable use. The needs of all stakeholders involved in different aspects of the global PGRFA use system have been gathered and documented through surveys and meetings and translated into an online system—the Toolbox for Sustainable Use of PGRFA. The Toolbox is for people seeking information or guidance on policies, strategies and activities that can promote and enhance the sustainable use of PGRFA, particularly at national and local levels. Users may come from a wide range of stakeholder groups, including those working in or associated with public research institutes and gene banks, government agencies, farmers' associations, agro-NGOs, local and indigenous community enterprises, seed networks, educational establishments, international bodies, networks and services, private plant breeding companies, and the commercial seed and plant production industries, as well as independent plant breeders, farmers and seed producers. **Using the Toolbox** The Toolbox has two primary components—web pages highlighting and summarizing key areas of relevance in promoting and enhancing the sustainable use of PGRFA, and a database facilitating access to a selection of resources to aid users in the development of sustainable use initiatives. Resources are classified according to the relevant subject area(s) and specific subject categories as well as by the primary geographic area of relevance, language, publication date and

	format. Most resources are open access and freely available for download from the Web. Users can access resources via a search function in each subject area web page (to find resources related to that area) or use the 'Search for resources' page to undertake free-text or structured searches of the entire database. To further aid users in navigating the database, the resources are also classified according to eight types, as shown below. Some resources are of more than one type—for example, publications that include case studies, learning materials that include tools, and case studies that are presented as multimedia.
Timeframe	ongoing
Link	http://www.fao.org/plant-treaty/tools/toolbox-for-sustainable-use/overview/en/
Comments	

Engagement method	**Co-development platform**
Agency	FAO - International Treaty on Plant Genetic Resources for Food and Agriculture
Name of the activity	The Platform for the Co-Development and Transfer of Technologies
Description	Stakeholders in the International Treaty are empowered to utilise technologies for the conservation, characterization, evaluation and use of plant genetic resources for food and agriculture. The Platform facilitates the discussion and coordination on issues related to the identification of gaps and the development of technology packets in the context of the International Treaty. The Platform, with its objectives and operating principles, was presented to the Fifth and Sixth Sessions of the Governing Body in 2013 and 2015 and adopted as part of the Programme of Work on Sustainable Use as a mechanism to build partnerships for the co-development and transfer of technologies relevant to PGRFA.
Timeframe	ongoing
Link	http://www.fao.org/plant-treaty/areas-of-work/sustainable-use/platform/en/
Comments	

Engagement method	**Capacity building**

Agency	FAO - International Treaty on Plant Genetic Resources for Food and Agriculture (PGRFA)
Name of the activity	Training and Capacity Development Programme
Description	Most of the activities have been implemented in partnership with a wide range of stakeholders like universities and academic organizations, large technical projects and research institutes from developed and developing countries in different regions and on a range of topics. At its Sixth Session the Governing Body of the International Treaty requested the Secretary to maintain the Capacity Building Coordination Mechanism (CBCM) established in 2011; and to identify existing centres which provide training relevant for the implementation of the Treaty and that could function as partners in an international network of centres of excellence with a complementary curriculum. The CBCM was established to coordinate existing scientific and technical education and training programmes in areas of direct relevance to the Treaty by building on existing capacities and resources of recognised PGRFA institutions, universities and centres of excellence; and to create synergies and opportunities among the interested stakeholders to develop capacity to carry out interdisciplinary basic and applied research, particularly in support of developing countries. While the Secretariat of the International Treaty has played a catalytic role, most activities are directly implemented through a Network of Centres of Excellence. Each Centre operates as a node at domestic level and coordinates a variable number of institutions and organizations with complementary expertise. The topics covered range from genomics, bioinformatics, genebanks management, trade in PGRFA, information sharing, governance of genetic resources, access and benefit-sharing law and intellectual property rights. Some of the services offered by the Centres are: 1) formal education and informal training through postgraduate courses, scientific conferences and technical events; 2) best practices to avoid risks and case studies on various topics; 3) advice and support to users of the Treaty systems
Timeframe	ongoing
Link	http://www.fao.org/plant-treaty/tools/training-and-capacity-development-programme/en/
Comments	

Engagement method	**Learning modules for dissemination**
Agency	FAO - International Treaty on Plant Genetic Resources for Food and Agriculture (PGRFA)

Name of the activity	Learning modules
Description	The module is targeted to genebank managers and technical advisers to policymakers and can also be used for education The module contains background lecture notes, PowerPoint presentations, practical exercises to reinforce an understanding of the impact and working of International Treaty law in the types of situations that professionals in plant genetic resources can expect to face, references to the full-text of relevant laws and policies and a bibliography for further reading. The module also contains complete Information for Trainers, with templates, tips, and step-by-step guidelines for delivering a successful training workshop. The content is designed for a 2-day, face to face workshop, but the materials may also be used separately for a shorter workshop or to support classroom teaching.
Timeframe	ongoing
Link	http://treatylearningmodule.bioversityinternational.org/
Comments	

United Nations (UN)

Engagement method	**Innovation Jam**
Agency	UN-HABITAT the United Nations Programme for Human Settlements, was mandated by the UN General Assembly in 1978 to address issues of urban growth. It collaborates with governments and local partners to define the urban vision of tomorrow.
Name of the activity	Habitat Jam
Description	In 2005, the Government of Canada and the UnitedNations Human Settlements Programme (UN-HABITAT) organized a three-day Habitat Jam. 19 Thousands of participants—from urban specialists to government leaders to residents from around the world—discussed issues of urban sustainability. Their ideas shaped the agenda forthe UN World Urban Forum, held in June 2006. People from 158 countries registered for the jam and shared their ideas for action to improve the environment, health, safety, and quality of life in the world's burgeoning cities. While the Habitat Jam was a demonstration project, its success indicates the promise of such approaches to engage many citizens insolving important social issues and problems.
Timeframe	2005
Link	https://en.wikipedia.org/wiki/Habitat_Jam

Comments	

Engagement method	**Knowledge Portal**
Agency	UN The United Nations Framework Convention on Climate Change (UNFCCC) is an international environmental treaty adopted on 9 May 1992. The framework sets non-binding limits on greenhouse gas emissions for individual countries and contains no enforcement mechanisms. Instead, the framework outlines how specific international treaties (called "protocols" or "Agreements") may be negotiated to specify further action towards the objective of the UNFCCC.
Name of the activity	UNFCCC 'Adaptation Knowledge Portal'
Description	UNFCCC 'Adaptation Knowledge Portal' (AKP), part of the Nairobi work programme on impacts, vulnerability, and adaptation to climate change (NWP)47. The UNFCCC AKP aims at facilitating the sharing of good practices and lessons learned by offering an exchange platform to all adaptation practitioners and researchers, including partner organisations. The AKP provides access to a curated database of adaptation knowledge resources such as case studies, methods and tools, publications and technical documents, as well as other materials, and provides a platform to share the latest news and resources on adaptation under the UNFCCC process and from NWP partner organisations. Users are welcome to **contribute information to the database** or apply to become a **NWP partner organization** through the submission forms on the AKP.
Timeframe	ongoing
Link	https://www4.unfccc.int/sites/NWPStaging/Pages/Home.aspx
Comments	

Engagement method	**Online platform**
Agency	World Health Organization, UN Environment Programme, the World Bank, climate and clean air coalition
Name of the activity	Breathlife
Description	Breathlife is a platform that combines public health and climate change expertise with guidance on implementing solutions to air pollution in support of global development goals. Objectives: • Connect cities: Provide a platform for cities to share best practices and demonstrate progress in their journey to meeting WHO air quality targets by 2030

	• Increase monitoring: Work with municipalities to expand monitoring efforts that can keep citizens informed and facilitate more sustainable urban development • Accelerate solutions: Build demand for new solutions that are working and support municipalities in effectively implementing them in their own cities • Empower individuals: Educate people about the burden air pollution poses to our health and our climate and provide meaningful ways to take action both locally and globally
Timeframe	ongoing
Link	https://breathelife2030.org/
Comments	

Engagement method	**Online Platform**
Agency	The UN Environment Programme – UNEP is a programme of the United Nations that coordinates the organization's environmental activities and assists developing countries in implementing environmentally sound policies and practices.
Name of the activity	The World Environment Situation Room
Description	The World Environment Situation Room implements the Big Data Initiative. The project is global with overarching environmental policy relevance and impact. It includes geo-referenced, remote-sensing and earth observation information integrated with statistics and data on the environmental dimension of sustainable development. The themes of this Global platform cover complementary dimensions for Global Green Solutions for the Environment. It targets country policy makers, top environmental policy makers, the environmental scientific community, business and interested citizens. The platform is essential as a knowledge instrument to support progress on delivering the environmental dimension of Agenda 2030 for Sustainable Development.
Timeframe	ongoing
Link	https://environmentlive.unep.org/home/aboutus
Comments	

Engagement method	**Platform and citizens science**
Agency	UNEP
Name of the activity	UNEP LIVE programme

Description	Includes also a citizens science portal "Environment Live's Citizen Science portal" that includes many examples of citizens science initiatives on different topics.
Timeframe	ongoing
Link	http://uneplive.unep.org/citizen
Comments	

Engagement method	**Data Hub**
Agency	UN environment
Name of the activity	UN Environment SDG Data Hub
Description	As custodian agency for 26 indicators of the Sustainable Development Goals (SDGs), UN Environment is actively involved in the development and refinement of data collection methodologies, particularly for those indicators that remain without internationally established methodologies and standards (Tiers II and III). In this effort, UN Environment periodically organizes Expert Group Meetings, Capacity Building and Pilot Testing to seek outside expertise from colleagues in academia, civil society, the private sector, and other intergovernmental agencies.
Timeframe	ongoing
Link	http://sdgs-uneplive.opendata.arcgis.com/
Comments	

Engagement method	**Online Platform**
Agency	UNDP and UN Environment
Name of the activity	UNBiodeiversity Lab
Description	The UN Biodiversity Lab is an online platform that allows policymakers and other partners to access global data layers, upload and manipulate their own datasets, and query multiple datasets to provide key information on the Aichi Biodiversity Targets and nature-based Sustainable Development Goals. The core mission of the UN Biodiversity Lab is three-fold: to build spatial literacy to enable better decisions, to use spatial data as a vehicle for improved transparency and accountability, and to apply insights from spatial data across sectors to deliver on the Convention on Biological Diversity and the 2030 Agenda for Sustainable Development. The UN Biodiversity Lab data is powered by MapX, the only UN-backed geospatial mapping

	software which collects and verifies scientific data, brokers knowledge exchange for people in need of spatial solutions to environmental and natural resource challenges, and offers a customizable toolkit for analysis, visualization, and sharing. By creating a collaborative, open-source environment, the UN Biodiversity Lab is an inclusive and scalable data platform
Timeframe	ongoing
Link	https://www.unbiodiversitylab.org/about.html
Comments	

Engagement method	**Information Portal and online e-courses**
Agency	UN
Name of the activity	InforMEA and InforMEA learning
Description	InforMEA is the United Nations Information Portal on Multilateral Environmental Agreements, an online portal that provides information about the Multilateral Environmental Agreements (MEA's) to the public. The InforMEA initiative is facilitated by the United Nations Environment Programme and supported by the European Union. It seeks to develop Inter-operable information systems for the benefit of the (MEA)Parties and the environment community at large. Since the launch of the InforMEA platform in 2011 the services of InforMEA have expanded from providing a Thesaurus on Environmental Law and Conventions to enabling access to MEA related information in the form of decisions, resolutions, news, calendars of events, a glossary, lists of Parties, national focal points, national reports and strategies. InforMEA also provides access to 28 free online e-learning courses related to the MEA's, which are used in University curriculum's including that of Macquarie University in Sydney, the University of Eastern Finland and the UN system staff college (UNSSC). The InforMEA Initiative consists of 20 Multilateral Environmental Agreements hosted with four United Nations bodies. MEAs include: Basel, Rotterdam, Stockholm and Minamata (Chemicals and Wastes); CBD(Biodiversity); CITES (Trade in Wildlife); ITPR-FA (Plants); Vienna (Ozone); Ramsar (Wetlands); UNESCO-WHC (World Heritage); UNCCD (Deserts); UNFCCC (Climate Change); 5 UNECE Conventions and a number of regional conventions.
Timeframe	ongoing
Link	https://elearning.informea.org/course/view.php?id=40
Comments	

World Vegetable Center (WorldVeg)

Engagement method	International Improvement Network
Agency	The World Vegetable Center is the only international agricultural research center with "development" in its mandate. Center scientists have applied research in collaboration with farmers to breed well-adapted cultivars and develop technologies to increase yields and incomes in developing countries. Millions of farmers today grow vegetable crops using seed or technologies developed by the Center. The Center encourages the participation of smallholders and other actors along the supply chain in all research and development activities, and promotes consumption of diverse and safe vegetables with enhanced nutritional qualities and nutraceutical potential to improve the health of rural and urban poor consumers. Using this holistic approach, AVRDC has generated a vast array of varieties that are international public goods, developed technologies that address economic and nutritional needs of the poor, and empowered farmers, national agricultural research and extension systems (NARES), nongovernmental organizations (NGOs) and private sector personnel to engage in vegetable production, marketing, and nutrition issues.
Name of the activity	International Mungbean Improvement Network
Description	Average global grain yields of mungbean are quite low and there is much potential to develop better performing varieties. International collaboration has been a key feature of mungbean breeding research for decades. Many of the cultivated varieties are based on breeding work coordinated by the World Vegetable Center. To strengthen such international collaboration in the light of future global challenges of nutrition security and climate change, the World Vegetable Center established the International Mungbean Improvement Network (IMIN) in 2016 with funding support from the Australian Centre for International Agricultural Research (ACIAR). This network aims to connect mungbean researchers from around the world to openly share experiences, knowledge and technologies based on common principles of cooperation as laid down in a Memorandum of Agreement. To date, IMIN has led to the development of mungbean core and mini-core collections for breeding to better exploit the potential of the available mungbean genetic resources. This collection has been tested in various countries in Asia and Africa, which led to the discovery of many novel plant traits such as new sources of mungbean yellow mosaic virus resistance, salt and heat tolerance, and variations in iron and protein content. Parties interested to join the network are invited to sign a Memorandum of Agreement with the World Vegetable. The agreement specifies general Principles of Cooperation to promote the open sharing of knowledge, experiences and technologies. Membership is free of

	charge. BENEFITS include a regular newsletter with updates on mungbean research, participation in an annual mungbean workshop, and the potential to develop new projects and collaborations with like-minded researchers. Improved mungbean breeding lines and genebank accessions are available from WorldVeg for members and non-members.
Timeframe	Since 2016 - ongoing
Link	https://avrdc.org/intl-mungbean-network/
Comments	

World Fish Center

Engagement method	**Participatory Market Chain Approach (PMCA)**
Agency	WorldFish is an international, nonprofit research organization with headquarters in Penang, Malaysia, and offices in Asia, Africa and the Pacific. WorldFish's mission is to harness the potential of fisheries and aquaculture to reduce poverty and hunger in developing countries. WorldFish uses its experience in fisheries and aquaculture to comply with Sustainable Development Goals. WorldFish is one of the 15 specialized research centers of the Consortium on International Agricultural Research (CGIAR).
Name of the activity	PMCA applied to aquaculture value chain development in Bangladesh and Nepal
Description	Technology and knowledge transfer has been a great challenge for many developing countries in South Asia due to poor information and communications technology networks. A limited number of institutions focused on science and technology, weak linkages among private and public institutions and political instability. These factors have hampered the successful transfer and diffusion of new and proven technologies between countries. WorldFish, through the Agriculture and Nutrition Extension Project (ANEP), supported the transfer of new technologies and information between Bangladesh and Nepal in order to facilitate aquaculture development. A number of activities were conducted in order to facilitate this process. These included: meetings with fish farmers to identify problems affecting producers; stakeholder meetings and value chain analysis to identify problems within the sector; events, including expert visits, technical staff training, expert consultation using information technology, hands-on training and exchange visits for farmers and private sector entrepreneurs; and meetings to disseminate information on new technology among fish farming stakeholders. ANEP used the participatory market chain approach (PMCA) to identify sector-specific problems and technological solutions capable of transforming upstream and downstream segments of the chain.

Timeframe	2014-2016
Link	https://www.worldfishcenter.org/content/making-sense-market-assessing-participatory-market-chain-approach-aquaculture-value-chain https://www.worldfishcenter.org/content/aquaculture-technology-exchange-between-bangladesh-and-nepal-agriculture-and-nutrition
Comments	

World Agroforestry

Engagement method	**Decision Hub**
Agency	World Agroforestry (a brand name used by the International Centre for Research in Agroforestry, ICRAF) is a centre of science and development excellence that harnesses the benefits of trees for people and the environment. Leveraging the world's largest repository of agroforestry science and information, the centre develops knowledge practices, from farmers' fields to the global sphere, to ensure food security and environmental sustainability.
Name of the activity	Decision Hub based on SHARED (Stakeholder Approach to Risk Informed and Evidence-based Decision-making) methodology
Description	The Decision Hub is a collective of stakeholder engagement specialists, transdisciplinary scientists, and behavioral specialists who together apply a tailored method for stakeholder engagement, managing relationships and brokering multi-stakeholder partnerships. These interactions are founded on a principle of fostering evidence-based decision making. ICRAF works with development partners, government agencies and departments, private sector and research institutions. The Decision Hub offers tailored facilitation and technical support to stakeholder ecosystems. Through managing relationships, catalyzing partnerships and sequencing interactions ICRAF aims, through focusing on a human-centred process, to help address complex development challenges. The hub has been developed with to the SHARED (Stakeholder Approach to Risk Informed and Evidence-based Decision-making) methodology, which provides a comprehensive framework, tailored to specific decision contexts, to bring together processes, evidence, and tools, and shift the decision paradigm towards more inclusive, inter-sectoral and inter-institutional integration to tackle complex decisions and to achieve desired outcomes. The SHARED approach includes four inter-related phases using comprehensive facilitation to support interaction with evidence, enhance co-learning, building long-term relationships and ensure that evidence can be critically interpreted, queried, and evaluated. This approach ensures cohesive communication across multiple institutions, political

	levels and knowledge systems to build capacity and the evidence base as a continuously linked process, within the same development outcome pathway. The SHARED team works through projects and consultancies in 15 countries in Africa and 2 in South Asia to date. **Indicative service offerings** • Leading structured change events • Designing and implementing structured stakeholder engagement processes • Thematic and integrated research synthesis • Science communications - Making science accessible • Catalysing networks and partnerships • Building capacity for data visualisation and interpretation for integration into actionable decision making • Research to enhance the impact of data visualisation into decision making processes
Timeframe	2012 - ongoing
Link	http://www.worldagroforestry.org/shared
Comments	Contact: Mieke Bourne m.bourne@cgiar.org

International Potato Center

Engagement method	**Competition**
Agency	The International Potato Center (known as CIP from its Spanish-language name *Centro Internacional de la Papa)* is a research facility based in Lima, Peru, that seeks to reduce poverty and achieve food security on a sustained basis in developing through scientific research and related activities on potato, sweet potato, other root and tuber crops, and on the improved management of natural resources in the Andes and other mountain areas. It was established in 1971 by decree of the Peruvian government. CIP is one of the 15 specialized research centers of the Consultative Group on International Agricultural Research, an international consortium of agricultural research organizations, having joined in 1972
Name of the activity	CIP Open Access Competition
Description	Following the success of the Data Sprint 2016 and the Open Access Competition 2018, CIP is launching our third Open Access Competition, this time focusing mainly on data documentation and datasets that have been used to publish journal articles. The goal is to have 100 new, quality assured and properly annotated datasets published in CIP's Dataverse repository The Open Access competition will run until July 30, 2020 • All datasets published by CIP staff during the period of 1st August 2019 to 31th July 2020 will be eligible

	• Datasets need to be quality checked, include complete metadata and well-defined variables annotated with ontologies where possible **Competition Rules:** • Authors will receive one point for every qualified dataset submitted to CIP's Dataverse. For datasets with multiple data authors, each author receives one point. • Authors with datasets that have both the metadata and data variables annotated with ontology terms will receive an extra point. • Authors of datasets that are part of an ISI Journal paper will also receive an extra point. **Prizes:** • The individual author with the most score will receive funding to cover the cost of one Open Access article and the cost of his/her participation in one scientific conference • The Program with most datasets will receive funding for two Open Access articles. • The Program in second place will receive funding for one Open Access article.
Timeframe	Ongoing (previous editions 2016 and 2018)
Link	https://cipotato.org/open-access/cip-open-access-competition-2019-2020/ https://cipotato.org/open-access/cip-open-access-competition-2018/ https://cipotato.org/open-access/cip-open-access-data-sprint/
Comments	

International Maize and Wheat Improvement Center (CIMMYT)

Engagement method	**Crowdsourcing**
Agency	The International Maize and Wheat Improvement Center (known by its Spanish acronym CIMMYT for *Centro Internacional de Mejoramiento de Maíz y Trigo*) is a non-profit research and training institution dedicated to both the development of improved varieties of wheat and maize with the aim of contributing to food security, and the introduction of improved agricultural practices to smallholder farmers to help boost production, prevent crop disease and improve their livelihoods. It is also one of the 15 non-profit, research and training institutions affiliated with the CGIAR, formerly known as the Consultative Group on International Agricultural Research.
Name of the activity	Fall Armyworm Monitor
Description	The Fall Armyworm Monitor is a web-based application that collects population, incidence and severity data, and guides pest management decisions. The web tool relies on information gathered by farmers using smartphones in their fields.

	Crowdsourced information on the movement of fall armyworm is essential for effectively monitoring its spread and is a pivotal step in its management. It was developed by CIMMYT in cooperation with Bangladesh's Department of Agricultural Extension, through the Fighting Back Against Fall Armyworm project, supported by USAID and Michigan State University. Over 450 representatives from government, nonprofits and the private sector participated in three-day training to learn how to identify, monitor and apply integrated pest management approaches.
Timeframe	Ongoing
Link	https://www.cimmyt.org/news/crowdsourced-data-feeds-fall-armyworm-surveillance-in-bangladesh/ https://faw-monitor.firebaseapp.com/
Comments	

International Livestock Research Institute (ILRI)

Engagement method	**Research Hub**
Agency	ILRI's research is directed to improving food and nutrition security through increased production and access to animal-source foods; stimulating economic development and poverty reduction through enhanced livestock value chains and increased productivity; improving human health through improved access to animal-source foods and a reduction in the burden of zoonotic and food-borne diseases; and managing the adaptation of livestock systems to climate change and mitigating the impact of livestock on the environment. ILRI's strategy 2013–2022 was approved in December 2012. It emerged from a wide process of consultation and engagement.
Name of the activity	The Biosciences eastern and central Africa-International Livestock Research Institute (BecA-ILRI) Hub
Description	The Biosciences eastern and central Africa (BecA)-ILRI Hub is a strategic biosciences platform that, through increased use of bioscience-based technologies, aims to improve the livelihoods of millions of resource poor people in Africa. The program's portfolio comprises research projects on crop and livestock improvement, nutrition and food safety, technology platforms and capacity building. **Recent accomplishments** Over 1,000 scientists from more than 20 countries benefited from short skill-enhancement training courses between 2015 and 2017. Establishment of 13 communities of practice, linking African scientists of different disciplines with similar interests. Support to grant writing has resulted in proposals worth about USD13 million.

	Over 6,000 dairy farmers in Kenya and Rwanda received seeds of a climate-smart *Brachiaria* forage. Due to the resulting extra forage, they reported increases in milk production of up to 40% and 50% higher live-weight gains in young cattle
Timeframe	Ongoing
Link	https://www.ilri.org/research/programs/beca-ilri-hub
Comments	

Global Investment Facility (GEF)

Engagement method	**Breakout sessions**
Agency	The Global Environment Facility (GEF) was established on the eve of the 1992 Rio Earth Summit to help tackle our planet's most pressing environmental problems. Since then, the GEF has provided close to $20 billion in grants and mobilized an additional $107 billion in co-financing for more than 4,700 projects in 170 countries. Through its Small Grants Programme, the GEF has provided support to nearly 24,000 civil society and community initiatives in 128 countries.
Name of the activity	Interactive Breakout Sessions - Civil Society Forum at the Sixth GEF Assembly
Description	The opening session was followed by an interactive session where 18 CSOs and IPLC made a pitch about their projects and all attendees were invited to participate in breakout groups to showcase the "real" story behind successful examples of systems change including examples of interventions that have involved different stakeholders from civil society/Indigenous Peoples and Local Communities (IPLC), governments and the private sector at local, national or regional levels. In the afternoon participants attended four breakout sessions as follows: **1. Effective collaboration for Systems Change** This breakout session showcased examples of effective collaboration between civil society/IPLC, governments and the private sector, and will highlight innovative multi-stakeholder partnerships at local, national or regional levels that have contributed to sustainable energy, food production or other areas with positive impact in terms of accountability and good governance for system change. **2. Innovative environmental action and policy advocacy** Advocacy and innovative thinking and practice from civil society is needed to achieve transformation of the unsustainable economic systems that are driving the planet's environmental degradation. This session showcased examples of innovative tools and mechanisms used by civil society and indigenous peoples and local communities in achieving these transformations.

	3. Pathways for inclusive GEF Projects and Programs: Operationalizing GEF's Stakeholder Engagement and Gender-responsive Approach in GEF-7 The session engaged representatives from civil society, grassroot and women's organizations, government and the GEF partnership in an informal discussion on how to ensure effective stakeholder engagement and promotion of gender equality in GEF programs and projects, and ways to practically operationalize GEF's new Policies on stakeholder engagement and gender equality in GEF-7 and beyond GEF's policies and guidelines into practice. **4. Views of the Civil Society Network on Effective Collaboration for Sustainable Transformation** In making a transformational change of the GEF CSO Network (GCN) to function as a strong and active civil society network in the GEF systems, there is a progressive need to engage the network within the context of multi-focal dimensions. The GCN aims to strengthen the members at country levels, empower the national and regional elected Regional Focal Points and IPLCs representatives along with a well-functioning GCN secretariat. The presentation talked about experiences and effective collaboration between available community mechanisms between GCN and the greater civil society, IPCLs, governments, private sector and line actors at local, national, regional and global levels to accelerate the achievement of the global environmental benefits.
Timeframe	June 2018
Link	https://assembly.thegef.org/assembly/civil-society-forum-sixth-gef-assembly https://assembly.thegef.org/documents/cso-forum-interactive-session-outcome-sixth-gef-assembly (outcomes)
Comments	

Stakeholder Engagement – other organisations

The University of Washington

Engagement method	**Gamification**
Agency	The University of Washington, Center for Game Science, in collaboration with the UW Department of Biochemistry
Name of the activity	Foldit
Description	Foldit is an online puzzle video game about protein folding. The objective of Foldit is to fold the structures of selected proteins as perfectly as possible, using tools provided in the game. The highest scoring solutions are analyzed by researchers, who determine whether or not there is a native structural configuration (native state) that can be applied to relevant proteins in the real world. Scientists can then use these

	solutions to target and eradicate diseases and create biological innovations.
Timeframe	ongoing
Link	https://fold.it/
Comments	A 2010 paper in the science journal Nature credited Foldit's 57,000 players with providing useful results that matched or outperformed algorithmically computed solutions.

Danish Government

Engagement method	**Science Week**
Agency	Danish Government
Name of the activity	Survey on Good Practices in the Protection of Human Rights Defenders
Description	One of the methods applied during Danish Science Week is the "Mass Experiment". The purpose of this experiment is to give children and youths insights into scientific methods through the medium of an issue which relates to their everyday lives. Every year, the Danish Science Factory develops a new experiment in collaboration with one or more research institutions. Around 1000 school classes - or between 20,000 and30,000 children and youth - take part in the experiment. The pupils conduct experiments and collect data, and afterwards, they report their results to Danish Science Factory and the scientists who analyse the data and write a final report (for more on results, see below). Besides the "Mass Experiment", Danish Science Week offers a number of different methods which communicate science. For instance, one of these is, "Book a Lecture" where scientists visit schools and share their experiences with science. During Science Week, between 500 and600 lectures are given. Furthermore, many external partners organise activities, so Science Week does not only take place in the classroom. In the course of a science week, the Danish government wanted to formulate a new strategy to combat climate change while driving new business growth. Rather than limiting the idea generation process to key government agencies and departments, the Danish government organized an Innovation Jam (a series of workshops) that brought together government representatives, businesses, and citizens as well as academics, experts, and artists. Such an approach helped government agencies to get innovative ideas and policy suggestions from a diverse set of stakeholders and go beyond the usual agency turf wars that typically dominate policy debate
Timeframe	

Link	https://naturvidenskabsfestival.dk/what-danish-scienceweek
Comments	

IBM – Innovation Jam

Engagement method	**Innovation Jam**
Agency	IBM
Name of the activity	Innovation Jam
Description	IBM started its Innovation Jams initiative in the early 2000s as a way to engage its employees in defining (or identifying) the core values of the company. A Values Jam enables a collaborative approach toward defining what the company should be all about. The company soon learned that the same approach could be used to find solutions to more complex issues and problems. One such problem was identifying future technology investment areas. Given a wide range of emerging technologies, the company had to decide which were worth pursuing, and which types of business opportunities (and commercial applications) would be feasible in those areas. Traditionally, such decision-making would have involved senior managers and technologists within IBM (and, to a limited extent, input from external consultants and experts). However, IBM decided to throw open the discussion to a broader audience. In 2006, the company organized the Innovation Jam, aimed at identifying and evaluating business opportunities associated with different emerging technologies.
Timeframe	2006
Link	The Innovation Jam—a massive limited-time online brainstorming session—involved 150,000 people from 104 countries, including IBM employees, scientists and researchers from universities, business partners, and customers. Over two 72-hour online sessions, participants posted more than 46,000 ideas as they explored IBM's most advanced research technologies and considered their application to real-world problems and emerging business opportunities. These ideas were then carefully examined and pruned to identify the 10 most promising business opportunities. Over the years, IBM has invested millions of dollars in new business creation based on the output of the Innovation Jam.
Comments	https://www.ibm.com/products/innovation-jam

"Wissenschaftsladen", the The Bonn Science Shop - Germany

Engagement method	**Science shop** - making research accessible to citizens

Agency	WILA Bonn focuses on key social challenges, such as the energy transition and social justice. They encourage scientists to take up complex topics, whilst also ensuring that these complex challenges are also understood by citizens.
Name of the activity	Wissenschaftsladen
Description	The largest science shop globally. Generates a turnover of ca 3 million euros. Won multiple awards.
Timeframe	Founded in 1984
Link	https://www.wilabonn.de/en/
Comments	

wer-weiss-was.de - Germany

Engagement method	**Information sharing network**
Agency	wer-weiss-was.de
Name of the activity	wer-weiss-was
Description	An online platform where users can ask and reply to questions pertaining to e.g. different areas of science. 450 000 registered users, 1.6 millions of questions asked with over 6.7 millions answers. Free registration
Timeframe	Established in 1996
Link	https://www.wer-weiss-was.de
Comments	The platform is mainly meant for experts in a specific area. However, everyone can join, meaning not every user will be an expert.

Gute Frage - Germany

Engagement method	**Information sharing network**
Agency	gutefrage.net GmbH
Name of the activity	Gute Frage
Description	An online platform where users can ask and reply to questions and share knowledge. 1.9 million active users, 15 million new users per month, 25 000 daily replies to questions. Free registration
Timeframe	Established in 1996
Link	https://www.gutefrage.net

Comments	The platform is mainly meant for experts in a specific area. However, everyone can join, meaning not every user will be an expert.

Wellcome – United Kingdom

Engagement method	**Campaigns, partnerships, collaborative initiatives**
Agency	Wellcome is a politically and financially independent foundation supporting researchers, taking on big health challenges, campaigning for better science, and helping everyone get involved with science and health research
Name of the activity	Wellcome
Description	Combatting health-related issues by collaborating with academia, philanthropy, businesses, governments and civil society around the world. Approaches include vaccine development, academical research into various health risks, and raising public awareness of health risks through e.g. public engagement projects. Examples of collaborating with scientist include the largest ever survey into experiences of research culture (4000 scientist participants), online forums and café culture discussions where scientist can raise their opinions and concerns. They also host e.g. the Reimagine Research Solutions Summit 2020, where they bring together advocates and experts from across the research community to reflect on the findings and opinions. They basically facilitate the collaboration of scientist from various fields. Won multiple awards for e.g. innovation and collaboration activities.
Timeframe	1936 to date
Link	https://wellcome.ac.uk
Comments	Projects funded by an investment portfolio, which in September 2019 was worth £26.8 billion.

Expert optix – United Kingdom

Engagement method	**Expert assessment tool**
Agency	Eldeman BioScience Communications. Edelman is a global communications firm that partners with businesses and organizations to evolve, promote and protect their brands and reputations.
Name of the activity	Expert optix
Description	"expert optix employs an integrated and holistic approach to assessing experts through both quantitative and qualitative assessment, incorporating dimensions such as sentiment and social media visibility into expert profiles. And it presents it all in a visually compelling, at-a-glance infographic."

Timeframe	Since 2015
Link	https://www.edelman.com/expertise/medical-communications/expert-engagement
Comments	

Aalto University - Finland

Engagement method	**Science collaboration platform**
Agency	Aalto University
Name of the activity	Science collaboration platforms: provide events, networking, seed funding, and visibility for cross-sectional research
Description	The university has various platforms specialising in topics such as digital innovation, health, energy, sustainability… and multidisciplinary collaboration. Connecting artist and technical and scientific researchers both inhouse and with various industries. Events include monthly brainstorming breakfasts.
Timeframe	ongoing
Link	https://www.aalto.fi/en/research-art/what-are-aalto-platforms
Comments	Aalto also facilitates coordination with various research infrastrustures: https://www.aalto.fi/en/research-and-learning-infrastructures

Business Finland - Finland

Engagement method	**Co-creation and co-innovation initiatives between researchers and business**
Agency	Aalto University
Name of the activity	Business Finland
Description	By funding and encouraging: • research organizations to carry out high-level public research, strengthening their own expertise and at the same time cooperate with companies • companies to renew their business by working closely together with research organizations.
Timeframe	ongoing
Link	https://www.businessfinland.fi/en/for-finnish-customers/services/funding/cooperation-between-companies-and-research-organizations/
Comments	

Donau-Universität Krems und Bundesministerium für Kunst, Kultur, öffentlichen Dienst und Sport - Austria

Engagement method	**Innovation Lab**
Agency	Donau-Universität Krems und Bundesministerium für Kunst, Kultur, öffentlichen Dienst und Sport
Name of the activity	GovLabAustria
Description	An innovation lab addressing key challenges in the public sector in an open and interdisciplinary space. Methods utilised in the experiments include co-leadership, co-creation and collaboration, personas, gameification, design-thinking, as well as agile development/rapid prototyping. They also mediate collaboration between experts from other innovation labs. They also offer a physical place where creation and collaboration can take place (ImpactHUB Vienna, see below).
Timeframe	ongoing
Link	http://www.govlabaustria.gv.at/ueber-uns/
Comments	

Impact Hub - Austria

Engagement method	**Innovation Lab**
Agency	Impact Hub Vienna GmbH
Name of the activity	Impact Hub Vienna
Description	By bringing sustainable businesses together to innovate. They bring founders, creatives, investors, established companies and NGOs together to innovate and develop entrepreneurial ideas combining sustainability and profitability. They offer co-working, event spaces, as well as accelerator programs for start-ups. A global network of over 110 impact hub locations in over 50 countries, with 16 000 members worldwide.
Timeframe	ongoing
Link	https://vienna.impacthub.net
Comments	

Science Shop Austria - Austria

Engagement method	**Science Shop**
Agency	Science Shop Austria

Name of the activity	Science Shop Austria
Description	Combines science, technology and the civil society with current themes in the context of emerging technologies. It acts as a mediator between the civil society, researchers, and experts in the fields of ambient assisted living, artificial intelligence, as well as the Internet of things in order to solve societally relevant issues within these fields.
Timeframe	ongoing
Link	https://www.scienceshop.at/en/
Comments	

Science Shop Vienna - Austria

Engagement method	**Science Shop**
Agency	Wissenschaftsladen Wien - Science Shop Vienna is an independent research institute that performs research in response to needs and demands of non-profit organisations, such as human rights organisations, non-profit service organisations, local authorities and social or environmental initiatives
Name of the activity	Wissenschaftsladen Wien - Science Shop Vienna
Description	By facilitating research projects, organising conferences and workshops, offering expert opinions in research. Research topics are mainly derived from requests directed to the institute or are developed together with NGOs/civil society organisations. However, the Science shop can also reach a wide number of cooperation partners from areas such as natural and technical sciences, when necessary.
Timeframe	Established in 1991
Link	https://wilawien.ac.at/index_en.html
Comments	

LISAvienna - Austria

Engagement method	**Life science platform**
Agency	LISAvienna is a joint life science platform operated by Austria Wirtschaftsservice and the Vienna Business Agency. On behalf of the Austrian Federal Ministry for Digital and Economic Affairs and the City of Vienna, it contributes to the advancement of life sciences in Vienna. LISAvienna supports innovative biotech, pharmaceutical and medical technology companies in Vienna that develop and market new products, services and

	processes. The platform links these companies with development partners and key customers. As a central knowledge carrier, LISAvienna provides input for decisions to advance the life sciences in Vienna and contributes to positioning the city of Vienna as one of the leading European innovation centres.
Name of the activity	LISAVienna
Description	A joint life science platform operated by Austria Wirtschaftsservice and the Vienna Business Agency. They support biotech, pharmaceutical and medical technology companies in Vienna by linking them with key customers and development partners. Their free events in Vienna, the "Business Treffs", enable networking for an increased exchange of experiences and knowledge transfer within the Vienna life sciences community. They offer free services (only) for start-ups in Vienna
Timeframe	Established 18 years ago
Link	https://www.lisavienna.at
Comments	

European Science Engagement Association (EUSEA) - Austria

Engagement method	**Science Engagement platform**
Agency	EUSEA is an international knowledge-sharing platform and accelerator of innovation in the fields of public engagement. The association addresses experts involved in the design, organisation and implementation of public engagement activities across Europe
Name of the activity	EUSEA European Science Engagement platform
Description	The EUSEA Science Engagement Platform was established to serve public engagement professionals across Europe in their needs to find inspiration, resources, methods and tools for running participatory, dialogue-oriented engagement activities. The platform unites and showcases inspiring and innovative ways to engage different publics with science. A special focus of the resources provided on this platform lies on actively involving citizens and stakeholders in dialogue-oriented research and innovation processes. It has started by uniting science festival organisers with science communication practitioners from cities, universities, science centres, and cultural institutions across Europe. It "has evolved from a meeting-place for science festival organisers to a collaborative international community for public engagement practitioners. Today, Eusea encourages and supports innovative formats of science-society dialogues across Europe – ranging

	from Researchers' Nights to Science Parliaments, from Science Cafés to Maker Fairs, from public debates to local strategies uniting scientists with policy makers."
Timeframe	Founded in 2001
Link	https://eusea.info/platform/about-this-platform/about/
Comments	

RAND corporation - US

Engagement method	**Online platform for stakeholder engagement and expert elicitation**
Agency	RAND corporation
Name of the activity	ExpertLens
Description	A three-to four round online process in which participants provide input and engage in an online discussion. Participants can also reply to other users' comments. Information about a research or project are provided together with background information to facilitate decision making and giving feedback. Each expert round typically lasts for one week.
Timeframe	ongoing
Link	https://www.rand.org/pubs/tools/expertlens/about.html
Comments	Mainly applicable for public policy, health care, finance and marketing, or where expert panels are typically used to help solve complex issues.

Innocentive - US

Engagement method	**Open innovation platform**
Agency	InnoCentive, Inc.
Name of the activity	Innocentive
Description	One of the best -known open innovation platforms. Allows companies and experts (from various industries) to interact. Only winning solutions are paid for. Awards vary greatly depending on the complexity of the task or problem. A network of over 400 000 experts
Timeframe	ongoing
Link	https://www.innocentive.com
Comments	

Productivity Commission - Australian Government's independent research and advisory body

Engagement method	Public Consultation
Agency	The Productivity Commission is the Australian Government's independent research and advisory body on a range of economic, social and environmental issues affecting the welfare of Australians. Its activities cover all levels of government and encompass all sectors of the economy, as well as social and environmental issues. One of its core functions is to conduct public inquiries at the request of the Australian Government on key policy or regulatory issues bearing on Australia's economic performance and community wellbeing. The Commission is often required to provide the Government with policy options representing alternative means of addressing the issues, as well as a preferred option.
Name of the activity	Public Inquiries
Description	As part of the Commission processes, consultations give the opportunity for different points of view in the community to be heard and considered. They are used to gather relevant information on policy issues and their impacts on different groups within society. The Commission's legislation requires impacts to be assessed on a community-wide basis. Hence, the inquiries help ensure that all costs and benefits are considered regardless of sectoral or other particular interests. The process can also help build momentum for reform. Public inquiries usually involve two stages of consultation: Input from interested parties and the general public is sought at an initial stage on an issues paper to focus attention on the matters it considers relevant, as well as at a later stage on a draft report. Interested parties can generally provide written submissions to the Productivity Commission at both stages. In addition, public hearings and/or other consultative forums are held to give interested parties the opportunity to provide feedback and input to the Commission's inquiries. Final Commission reports, including documentation on the analysis and public consultation as well as research findings and policy recommendations, are tabled in the Australian Parliament, and are publicly available to the wider community. While governments are not obliged to follow the Commission's advice, Commission recommendations are often accepted. A key strength of the inquiries according to the Productivity Commission is the consultation process, with a public draft report for consultation allowing for: 1. Meaningful feedback in consultations – interested parties are reacting to draft recommendations and can challenge the logic and the evidence 2. The scope to revise if needed in the light of new information 3. Testing of the public reaction to the draft recommendations, which can help identify issues that require further consideration

	including in respect of supporting information and implementation issues. There is a risk according to the Commission of recommendations being ruled out at an early stage of investigating policy solutions without them having full consideration. A key strength of the inquiries according to the Productivity Commission is the consultation process, with a public draft report for consultation allowing for: 1. Meaningful feedback in consultations – interested parties are reacting to draft recommendations and can challenge the logic and the evidence 2. The scope to revise if needed in the light of new information 3. Testing of the public reaction to the draft recommendations, which can help identify issues that require further consideration including in respect of supporting information and implementation issues.
Timeframe	Ongoing practice
Link	https://www.oecd.org/gov/regulatory-policy/AUS-Productivity-Commission-Inquiries.pdf https://www.pc.gov.au/inquiries?collection=productivity-commission-web&form=inquiries&gscope1=21 (outcomes)
Comments	

U.S. Department of Health & Human Services - National Institute on Minority Health and Health Disparities

Engagement method	**Community based participatory research**
Agency	U.S. Department of Health & Human Services - National Institute on Minority Health and Health Disparities
Name of the activity	The NIMHD Community-Based Participatory Research Program (CBPR)
Description	The NIMHD Community-Based Participatory Research Program (CBPR) supports collaborative interventions that involve scientific researchers and community members to address diseases and conditions disproportionately affecting health disparity populations. Recognizing the strength of each partner, scientific researchers across multiple disciplines and community members collaborate on all aspects of the project, which may include a needs assessment, planning, research intervention design, implementation, evaluation, and dissemination of community-level interventions. The community is involved in the CBPR program as an equal partner with the scientists. This helps ensure that interventions created are responsive to the community's needs.
Timeframe	https://www.nimhd.nih.gov/programs/extramural/community-based-participatory.html
Link	

Comments	

U.S. Government

Engagement method	**Crowdsourcing**
Agency	U.S. Government
Name of the activity	Survey on Good Practices in the Protection of Human Rights Defenders
Description	Challenge.gov is a web platform that assists federal agencies with inviting ideas and solutions directly from the public, or "crowd" (crowdsourcing). The website enables the U.S. government to engage citizen-solvers in prize competitions for top ideas and concepts as well as breakthrough software, scientific and technology solutions that help achieve their agency missions. This site also provides a comprehensive toolkit, a robust repository of considerations, best practices, and case studies on running public-sector prize competitions as developed with insights from prize experts across government. **Some examples:** Department of Agriculture (USDA) challenged the public to create an electronic application for the National School Lunch Program. The Environmental Protection Agency (EPA) is looking for technologies to recycle nutrients from livestock manure. The Bureau of Reclamation is looking for solutions to count food for critical fish species.
Timeframe	https://www.challenge.gov/
Link	
Comments	

USAID United States Agency for International Development

Engagement method	**Challenge Prizes**
Agency	The United States Agency for International Development USAID is an independent agency of the United States federal government that is primarily responsible for administering civilian foreign aid and development assistance.
Name of the activity	Data Driven Farming Prize
Description	For the Data Driven Farming Prize, delivered on behalf of the United States Agency for International Development (USAID), Nesta invited innovators to create smart tools to support farmers in producing more food in Nepal.

Timeframe	ongoing
Link	https://datadrivenfarming.challenges.org/
Comments	More than 140 teams applied from around the world, with 13 finalists given additional support to develop their product further, with exciting results for plant diagnostics and moisture management.

Annex III | Target audience identification methods

Overview

List of methods and their goals

Methods	Goal
Method for Transdisciplinary Research	Identifying stakeholders **to engage** them in transdisciplinary, sustainability research projects and **generate knowledge**. *E.g. find academic experts to identify potential risks of a new biotechnology on human health.*
Method to map stakeholders associated with societal challenges	Identifying stakeholders to help **understand their involvement in a range of societal challenges;** prioritising engagement with stakeholders who can offer input on the challenges and influence policy and research priorities in a region. *E.g. identify consumers or CSO organisations to discuss animal testing.*
Stakeholder identification in concept mapping	Identifying stakeholders within a research context requiring **practical input** from the field. *E.g. find industrial stakeholders to discuss best practices in using food packaging.*
Stakeholder Circle Methodology	Identifying stakeholders within a **project management context** to develop and monitor a **communication plan**. *E.g. identifying diabetes patients to develop a communication plan around a food additive.*
Prospex-CQI: Criteria-Quota-Individual	Identifying stakeholders **to engage** them as part of a balanced audience with **different degrees of influence**, avoiding missing out any stakeholder group. *E.g. engage a diverse group of stakeholders to exchange perceptions on endocrine disruptive properties of pesticides.*
Pyramid Research	Identifying top experts on a subject matter, with the objective of engaging with analogous fields and find **transferable knowledge** and **creative solutions** to an issue. *E.g. identify experts from the pharmaceutical industry on a new biotechnology not yet present in the food sector.*
Identification Public-Public Partnerships	Identifying and engaging stakeholders to **foster responsible research** & innovation and **increase potential impact of policy making** by assessing levels of interest and influence. *E.g. identify MEPs whose work is relevant to the Farm2Fork strategy.*
Stakeholder identification beyond classification	Identifying **real world parties** in line with the situations of stakeholders in innovation projects. *E.g. identify a group of farmers impacted by the authorisation of a new GMO cultivation.*

Methods	Goal
Mapping Stakeholders from Social Media	Identifying stakeholders on **social media** to improve **online engagement**. *E.g. identify scientists active on Twitter or Linkedin on new food and feed production technologies to engage with them.*
Smart Sheet Stakeholder Mapping	**Visualising** data about stakeholders to **improve/develop targeted communication**. *E.g. identify all actors of the food packaging supply chain for communication around nano-plastic hazards.*

Comparative table to weigh advantages and disadvantages

The table below compares the above-mentioned methods against a set of criteria. A colour code is set from green (recommended) to red (warning) in the following order: green, yellow, orange, red. The criteria are defined as follows:

- **Time investment**: estimated time between kick-off until the result.
  - Green: can be done in less than 2 weeks.
  - Yellow: may be done in 2 weeks, but likely more (e.g. depending on available data or skills).
  - Orange: can be done between 2 to 4 weeks.
  - Red: more than 4 weeks, OR difficult to assess due to dependency with external factors (e.g. need for data from experts and lack of control on their willingness to support).
- **Flexibility**: adaptability of the method to a variety of topics or contexts.
  - Green: easily applicable to a wide variety of topics, and contexts.
  - Yellow: flexible to a certain extent, with a minimum number of unchangeable factors only (e.g. geographical scope).
  - Orange: not highly flexible, mostly applied in restricted contexts.
  - Red: little to no flexibility.
- **Expertise required:** amount of experience and skills required within EFSA to apply the methodology.
  - Green: can be performed by staff with little skills or experience in identification methods.
  - Yellow: achievable without experience but easier with some skills.
  - Orange: difficult to perform without experience, requires some skills.
  - Red: requires high seniority and/or specialist skills.
- **Internal/external**: balance between amount of data available internally and data to gather from external sources (which can considerably delay the process).
  - Green: can be done with internal knowledge.
  - Yellow: requires minimal involvement of external experts.
  - Orange: requires moderate involvement of external experts.
  - Red: relies heavily or almost only on external experts to provide data.

- **Neutrality**: assessing the risk of identification bias from researchers carrying out the method.
  - Green: No or extremely unlikely risk of identification bias by the researcher.
  - Yellow: Minor risk of identification bias.
  - Orange: Sizable risk of identification bias.
  - Red: Major risk of identification bias.

The line 'Link to purposes' relates to the methods presented in Annex 1 and highlights which engagement purposes are best applicable to each target audience identification method.

NOTE: if **n/a** is indicated in the table below, it means that the information is not available or cannot be estimated as the methodology is patented or IP-protected.

Methods	Time	Flexibility	Expertise required	Internal/ external	Neutrality	Link to purposes
Method for Transdisciplinary Research						Generate ideas, learn & consult
Mapping stakeholders associated with societal challenges						Generate ideas, learn & consult, share lessons
Stakeholder identification in concept mapping						Learn & consult
Stakeholder Circle Methodology		n/a				Generate ideas, learn & consult, inform
Prospex-CQI: Criteria-Quota-Individual						Generate ideas, share lessons
Pyramid Research						Generate ideas, learn & consult
Identification Public-Public Partnerships						All purposes
Stakeholder identification beyond classification	n/a	n/a	n/a			Learn & consult, inform, gather data
Mapping Stakeholders from Social Media	n/a	n/a				Inform
Smart Sheet Stakeholder Mapping						Inform

Description of the methods

Method for Transdisciplinary Research

This method[3] consists of a snowball sampling approach, easily applicable by researchers with no prior experience in stakeholder research.

It is a 2-phase process of design and implementation of an identification questionnaire:

1. **collective identification**: a provisional group of stakeholders is identified by the researchers based on the knowledge they already possess;
2. **researcher immersion** - researchers focus on identification ***before*** the first data generation by immersing in a research problem - this is done through 1) *desk-based research* and 2) *exploratory/pilot study* in case study areas to supplement this knowledge.

This process is typically followed by a stakeholder engagement activity or event, where knowledge is generated.

Goal: identifying stakeholders **with the aim of *engaging*** with them in transdisciplinary, sustainability research projects, to generate further knowledge

Target users	Researchers (no experience with stakeholder identification needed)
Geographical scale	From local to international
Online/Offline	Online and offline

Example: this methodology was used across 17 European case studies for transdisciplinary research in the EU-funded project RECARE for the prevention and remediation of degradation of soils.

Estimated resources	
Relative time investment	Medium
Timeframe	2 to 3 weeks
FTEs and profiles	2 or 3 people. Ideally one social scientist.
Direct costs	None for the identification as such, but the objective is to have an engagement activity ultimately

[3] Julia Leventon, Luuk Fleskens, Heleen Claringbould, Gudrun Schwilch & Rudi Hessel, 2016: An applied methodology for stakeholder identification in transdisciplinary research. Sustainability 11 763-775. https://link.springer.com/article/10.1007/s11625-016-0385-1

Pros	Cons
▪ A flexible methodology, which can be applied to different research contexts. Some steps can be skipped or combined differently. ▪ Combines two approaches (collective identification and researcher immersion), minimising resources. ▪ More reliable thanks to the combined approaches: less chances of missing key stakeholders.	▪ Requires social scientists for case study exploration. ▪ Relies on case studies – not always available for EFSA. ▪ Potentially time-consuming as researchers first rely on existing knowledge before supplementing it. ▪ Risk of bias by the implementing researcher(s) - individual values or existing networks can affect the identification process.

Comparative table

Time investment	Between 2-3 weeks (depending on external inputs)	**Internal/external**	Relies heavily on external actors = risk of delays
Flexibility	Easily adjustable to different contexts.	**Neutrality**	Minor risk of identification bias
Expertise required	Better with social science expertise but doable with no experience	**Link to purpose**	Generate new ideas, Learn from and consult experts and stakeholders

Mapping stakeholders associated with societal challenges

This method[4] was originally providing guidance on identifying key stakeholders to South Asian partners in the EU-funded CASCADE project. The identification of stakeholders was performed by means of:

1- a **detailed policy and trend analysis** of societal challenges in relevant countries. The analysis focuses on several pre-selected societal challenges. It consists in a desk research setting out existing statistics, trends, assessing policy availability in the chosen geographical areas and identifying key informants with knowledge or responsibility in developing policies in those areas.

2- **interviews and focus groups** with knowledgeable experts with experience in one or more areas of the societal challenges.
   - Previously identified key informants support the identification of relevant respondents.
   - Semi-structured interviews are used to gain a better understanding of the challenge, their impact on society and stakeholders.

[4] Kanchana Ginige, Dilanthi Amaratunga & Richard Haigh, 2018: Mapping stakeholders associated with societal challenges: A Methodological Framework. Procedia Engineering 212 1195-1202. https://www.sciencedirect.com/science/article/pii/S1877705818301802#!

Interview data are analysed and further developed using focus groups. **Focus groups** help refine the overall perspective, get consensus on the understanding of the challenge and identify further stakeholders.

Goal: identify stakeholders to help understand their relationship to a range of societal challenges; prioritise engagement with stakeholders who can offer input on the challenges and influence policy and research priorities in the region.

Target users	Policy researchers (applicable to advocacy groups, NGOs, consumers)
Geographical scale	National (but scalable)
Online/Offline	Online and offline

Example: this methodology was used offline in the EU-funded CASCADE project (Collaborative Action towards Societal Challenges through Awareness, Development and Education) for 7 societal challenges, including food security. This led to 348 interviews and 135 focus groups (about 50 interviews and 20 focus groups per challenge).

Estimated resources	
Relative time investment	High
Timeframe	Between 4 and 8 weeks approx. depending on availability of respondents and of number of interviewers/focus group moderators
FTEs and profiles	4 to 5 people, with experience conducting interviews and focus groups
Direct costs	Offline: international travel costs to interviews and focus groups Online: phone bills and membership to a digital meeting tool (for focus groups)

Pros	Cons
▪ Can apply to a wide range of topics such as food security, sustainable agriculture, health, climate etc. ▪ For narrower topics, possibility to reduce the number of interviews ▪ Originally designed for national research but adaptable to different geographical scopes. ▪ This method is already an engagement tool in itself (interviews and focus groups can help generate data).	▪ Potentially too narrow - can be used in the context of societal challenges, unclear whether this framework can be replicated in other contexts. ▪ Highly time-consuming (50 interviews/20 focus groups) – require either a large team of interviewers or a team of scientific officers. ▪ High direct costs if conducted offline.

Comparative table

Time investment	Between 4-8 weeks (depending on external inputs and availability of interviewers)	**Internal/external**	Relies heavily on external actors = risk of delays
Flexibility	Geographically flexible, but unclear if applicable beyond societal challenges	**Neutrality**	Very limited risks of bias
Expertise required	Experience in conducting interviews/focus groups	**Link to purpose**	Generate new ideas, Learn and share lessons within groups, Learn from and consult experts and stakeholders

Stakeholder identification in concept mapping

This methodology[5] is a three-step creation process:

1- **framework identification**: define a relevant framework of stakeholder categories. An iterative search in the scientific research is used to identify existing frameworks and stakeholder categories used in related research. This lays the basis of the stakeholder categories.
2- **identification of specific stakeholder groups: t**his step starts by identifying *research disciplines* relevant to the topic. Stakeholder groups related to these disciplines are then added to the list of categories. This is then supplemented with *collaborative networks* by searching for relevant working networks and groups online.
3- **feedback solicitation**: a few experts (less than 5) are consulted to ensure that the framework obtained is an accurate reflection of the reality on the ground. Based on the data gathered, a visual concept mapping method is used to illustrate the link between stakeholder categories (see here and here).

Goal: identifying stakeholders within a research context requiring **practical input** from the field

Target users	Researchers
Geographical scale	Any
Online/Offline	Online

Example: this methodology was used in health research as a novel process applied to the study of older adult mobility and the built environment. It was created to improve methodological rigour in the selection of health research participants.

[5] Claire Schiller, Meghan Winters, Heather M Hanson & Maureen C Ashe, 2013: A Framework for stakeholder identification in concept mapping and health research: a novel process and its application older adult mobility and the built environment. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3653754/

Estimated resources	
Relative time investment	Low
Timeframe	1 to 2 weeks
FTEs and profiles	2 people, no expertise required
Direct costs	Fee for access to scientific literature

Pros	Cons
▪ Applicable to other public health topics. ▪ Visual.	▪ Requires broad access to the relevant scientific literature. ▪ Ultimately provides a set of categories rather than actual stakeholders to engage. ▪ Risk of identification bias in the literature review and searches.

Comparative table

Time investment	Between 1 and 2 weeks	**Internal/external**	External inputs only for validation
Flexibility	Easily adjustable to different contexts.	**Neutrality**	Minor risk of identification bias
Expertise required	Simple understanding of the topic	**Link to purpose**	Learn from and consult experts and stakeholders

Stakeholder Circle Methodology

WARNING: This method[6] is federally registered with the US Patent and Trademark office.

This method works together with a tool called Stakeholder Circle®. It is used in project management and consists of 5 steps:

1 – Identify stakeholders and understand their needs through an internal brainstorm with the core research team. Stakeholders identified are categorised into:

- Upwards - senior managers of the organisation;
- Downwards - part of the project team;
- Outwards - stakeholders outside the project, such as end-users, government, unions, shareholders; and
- Sidewards - peers of the project manager, such as other project managers.

2 – **Prioritise** stakeholders, based on their perceived power, proximity and "urgency".

3 – **Visualise** the 15 first key stakeholders using the Stakeholder Circle® diagram.

[6] https://www.stakeholdermapping.com/stakeholder-circle-methodology/

4 – **Engage** with the stakeholders by building and implementing a communication plan.

5 – **Monitor** changes over time to assess the effectiveness of the communication plan.

Goal: identifying stakeholders within a project management context with the aim of developing and monitoring a communication plan.

Target users	Project managers
Geographical scale	Any
Online/Offline	Online

Example: this methodology was used in health research as a novel process applied to the study of older adult mobility and the built environment. It was created as a way to improve methodological rigour in the selection of health research participants.

Estimated resources	
Relative time investment	Medium
Timeframe	2-3 weeks for steps 1 to 3
FTEs and profiles	3 or 4 people for a brainstorm.
Direct costs	Access to the full Stakeholder Circle® toolbox for $38.50 AUD

Pros	Cons
▪ Easy to use with guidance available. ▪ Visual. ▪ It already includes engagement as well as result monitoring. ▪ Internal process, doesn't require external support.	▪ A business-oriented tool dedicated to communication. Cannot apply to all phases of EFSA work. ▪ Lack of data on the flexibility and adaptability of the tool. ▪ The method is patented and requires buying the toolbox.

Comparative table

Time investment	Between 2 and 3 weeks (until step 3)	**Internal/external**	Internal only
Flexibility	n/a	**Neutrality**	Major risk of identification bias
Expertise required	Easy to use, guidance provided	**Link to purpose**	Generate new ideas, Learn and share lessons within groups, Inform

Prospex-CQI: Criteria-Quota-Individual

PLEASE NOTE: This method is IP protected.

This method[7] is part of the Stakeholder Integrated Research approach (STIR) to stakeholder engagement in research projects. The CQI is applied through a three-step stakeholder mapping. CQI stands for:

- **C- Criteria**: Defining a set of criteria and categories for stakeholder groups that are or could either be affecting the topic, be affected by it, or both;
- **Q- Quota**: Setting specific minimum quotas for all categories;
- **I- Individuals**: Identifying individuals that fit the categories, with the overall selection fitting the quotas set.

The mapping is carried out with the objective of setting up stakeholder engagement activities.

Goal: Identifying stakeholder with the aim of engaging with them as part of a balanced audience with different levels of influence; avoiding missing on any stakeholder group

Target users	Researchers
Geographical scale	Any
Online/Offline	Online and offline

Example: this methodology was developed in the EU-funded CLIMSAVE project for an integrated assessment of climate change impacts, vulnerability and adaptation. It was used to engage stakeholders in the development of an online tool supporting this assessment in a range of sectors and highlighting interactions and side effects between sectors.

Estimated resources	
Relative time investment	Low
Timeframe	1-2 weeks
FTEs and profiles	1 or 2 staff. No specific expertise required
Direct costs	None

[7] Marc Gramberger, Katharina Zellmer, Kasper Kok & Marc J. Metzger, 2014: Stakeholder integrated research (STIR): a new approach tested in climate change adaptation research. Climatic Change 128(3) 201-214. https://www.researchgate.net/publication/271738357_Stakeholder_integrated_research_STIR_a_new_approach_tested_in_climate_change_adaptation_research

Pros	Cons
▪ No expertise required. ▪ Transparent, designed to avoid identification bias. ▪ Applicable to various scientific contexts ▪ Already part of a wider engagement approach. ▪ Internal process, does not require external support.	▪ IP protection on the overall STIR method. ▪ Stakeholder mapping rather than audience identification. ▪ Mostly applied in research context for engagement. Might not apply to communication.

Comparative table

Time investment	Between 1 and 2 weeks	**Internal/external**	Internal only
Flexibility	Usually applied to scientific research	**Neutrality**	Minor risk of bias
Expertise required	Easy to use, guidance provided	**Link to purpose**	Generate new ideas, Learn and share lessons within groups

Pyramid Research

This method[8] uses a crowd-sourcing approach to knowledge-sharing. To conduct a pyramid research on a given topic, one needs to:

- Identify the people who might have knowledge or interest in a given topic area
- Interview them and ask them to provide references of a person with a greater expertise

After each interview, it is advised to assess how much knowledge was gathered to check if one is climbing the right "pyramid".

The process is then repeated until sufficiently high-positioned stakeholders have been identified. It has been noticed that people in highest positions are then more likely to give reference to experts in analogous fields.

Goal: identifying top experts on a subject matter, with the objective of engaging with analogous fields and find **transferable knowledge**; gathering data on a topic with the objective of **finding creative solutions** to an issue.

Target users	Anyone
Geographical scale	Any
Online/Offline	Online

Example: An article from the Harvard Business Review uses the example of a forklifting company looking for a solution to make unmounting forklifts safer. The company started

[8] Marion Poetz and Reinhard Prugl, 2015: Find the Right Expert for Any Problem, Harvard Business Review. https://hbr.org/2014/12/find-the-right-expert-for-any-problem

by contacting an intensive user of truck-mounted forklifts, who referred them to a maker of machinery-mounting systems for farm tractors. The references went on until they talked to a person in the entertainment industry specialised in unmounting stage equipment: from an analogous field, the company gained transferable knowledge for their own issue.

Estimated resources	
Relative time investment	Potentially very high
Timeframe	Difficult to assess, but probably up to 2 months
FTEs and profiles	1 or 2 people with minimal expertise on the topic. Some experience with interviews is necessary.
Direct costs	None

Pros	Cons
▪ Can help build up a network. ▪ Flexible and adjustable to many topics and contexts. ▪ This is an engagement method itself (for knowledge gathering). ▪ Good to use for creative problem-solving.	▪ Difficult to assess time investment as this relies greatly on responses. ▪ Risk of bias by the implementing researcher(s) - individual values or existing networks can affect the identification process. ▪ Only works with stakeholders who have expertise on the topic.

Comparative table

Time investment	Extremely variable and hard to plan	**Internal/external**	Relies heavily on external actors = risk of delays
Flexibility	Easily adjustable to different contexts.	**Neutrality**	Major risk of identification bias
Expertise required	Need experience with interviews	**Link to purpose**	Generate new ideas, Learn and consult experts and stakeholders

Identification Public-Public Partnerships

This method[9] works on the assumption that the purpose of the engagement and the desired level of engagement must be set up **before** identifying the target audience, as this will determine the identification framework and tools used. In this context, two methods are suggested:

[9] Michael Dinges, Anna Wang and Anja Kongeter, 2015: Policy Brief on Stakeholder Engagement in Joint Programming Initiatives ERA Learn 2020 1-15. https://www.era-learn.eu/documents/era-learn-publications/policy_brief_stakeholder_engagement.pdf

1- **Stakeholder analysis**, in which information to determine whose interests should be considered for an activity is gathered and assessed. This analysis leads to:
   - A **stakeholder register/repository** which collects all stakeholder information, categorises the stakeholders and gathers information such as stakeholders' interests, involvement, expectations, importance, influence or impact. Tools such as rating scales, influence diagrams or charts are useful to visualise and compare levels of power, influence, interest etc.
   - A **stakeholder management strategy** which lays down the approach for increasing stakeholder support and reducing negative impacts represented in a stakeholder analysis matrix - the tool requires resources including human resources.

2- **Expert judgment:** external expert technical and/or managerial judgment.

The outcomes of this identification, including data about each stakeholder, will determine the level of engagement required (lower levels = informative engagement, high levels = empowering, decision-making engagement).

Goal: identifying and engaging stakeholders to foster responsible research & innovation and increase potential impact of policy-making by assessing levels of interest and influence.

Target users	Anyone
Geographical scale	Any
Online/Offline	Online and offline

Example: The EU-funded project ERA LEARN 2020 which support research organisations with information about Public-Public-Partnerships (P2Ps) applies this methodology to improve the involvement of a wider community of actors in Joint Programmes Initiatives (JPIs) and P2Ps.

Estimated resources	
Relative time investment	Medium
Timeframe	Between 2 and 3 weeks
FTEs and profiles	Requires good knowledge of the stakeholder landscape to lead the task (not a junior person) - 2 or 3 people
Direct costs	Might need to purchase a membership to a data management or repository software

Pros	Cons
▪ Engagement-oriented. ▪ Designed to improve impact. ▪ Oriented towards civil society, assures the societal relevance of research output. ▪ Applied to R&I impact discussions, very close to EFSA risk assessment processes.	▪ Risk of bias by the implementing researcher(s) - individual values or existing networks can affect the identification process and push smaller stakeholder organisations out of the picture. ▪ Not used in a scientific setting. ▪ Might be a bit too analytical for a simple target audience identification.

Comparative table

Time investment	Between 2 and 3 weeks	**Internal/external**	Mostly internal
Flexibility	Easily adjustable to different contexts.	**Neutrality**	Sizable risk of identification bias
Expertise required	Requires some seniority and good knowledge of the stakeholder landscape	**Link to purpose**	All purposes

Stakeholder identification beyond classification

PLEASE NOTE: This method is IP protected.

This method[10] supplements usual stakeholder classification models with an identification procedure for **identifying real world parties**. The method focuses on identifying stakeholders in the context of innovation projects and answers the specific questions:

- what specific stakeholder fits within what specific category?
- how can a specific category be bounded in a justifiable way?

The identification method incorporates an identification procedure that explains how the model is to be used. It facilitates actual identification through **brainstorming with experts** on the innovation project. The identification method should be aligned with the situations of the stakeholders in the innovation project.

Goal: identifying real world parties in line with the situations of stakeholders in innovation projects.

Target users	Researchers and project managers
Geographical scale	Any
Online/Offline	Online and offline

[10] Janita F.J Vos and Marjolein C. Achterkamp, Staekholder identification in innovation projects: Going beyond classification, European Journal of Innovation Management 9 161-178. https://doi.org/10.1108/14601060610663550

Example: used in four cases in innovation projects.

Estimated resources	
Relative time investment	N/A
Timeframe	N/A
FTEs and profiles	N/A
Direct costs	Access to the full methodology

Pros	Cons
▪ Applicable to innovation projects but flexible for other contexts. ▪ Aims at involving more "real world" stakeholders.	▪ Very limited information on the methodology available. ▪ No assessment of time investment and expertise required.

Comparative table

Time investment	N/A	**Internal/external**	Minor involvement of external experts
Flexibility	N/A	**Neutrality**	Sizable risk of identification bias
Expertise required	N/A	**Link to purpose**	Inform, Learn from and consult experts and stakeholders, Gather data

Mapping Stakeholders from Social Media

PLEASE NOTE: This method is IP protected.

This method[11] is a conceptual framework of how organisations could use stakeholder theory and Social Network Analysis (SNA) to pick out and prioritise stakeholders in social media. It proposes an integrated model of stakeholder mapping that can be used to find and prioritise offline and online stakeholders. A combination of Stakeholder Salience Model (SSM) and SNA provides a direction and conceptual solution. The objective is to identify "unknown" yet important stakeholder on social media. Two aspects of a stakeholder's online presence are assessed (connectivity and content) based on which social media audiences are classified and integrated into the SSM model.

Goal: identifying stakeholders on social media with the goal of improving online engagement.

Target users	Industry and other organisations

[11] Kristina Sedereviciute and Chiara Valentini, 2011:Towards a more Holistic Stakeholder Analysis Approach Mapping Known and Undiscovered Stakeholders from social media International Journal of Strategic Communication 5 221-239. https://www.tandfonline.com/doi/abs/10.1080/1553118X.2011.592170

Geographical scale	Any
Online/Offline	Online and offline

Example: the methodology has been applied to public relations settings.

Estimated resources	
Relative time investment	N/A
Timeframe	N/A
FTEs and profiles	Requires an understanding of social media
Direct costs	39EUR for 24h access to the article with full detail of the methodology

Pros	Cons
▪ One of the only methods purely social-media-based. ▪ Oriented towards online engagement.	▪ Very limited information on the methodology available. ▪ No assessment of time investment and expertise required. ▪ Oriented towards public relations rather than engagement.

Comparative table

Time investment	N/A	**Internal/external**	Mostly internal
Flexibility	N/A	**Neutrality**	Possible risk of identification bias
Expertise required	Understanding of social media	**Link to purpose**	Inform, Learn from and consult experts and stakeholders, Gather data

Smart Sheet Stakeholder Mapping

This method[12] uses pre-set templates for stakeholder mapping to help visualise the stakeholder landscape. Three steps are suggested in this process:

1- Identifying stakeholders, individuals or organisations who have a stake in the project, by brainstorming internally.
   - It is advised to determine who are the relevant individuals within stakeholder organisations to better target communication in the future. It is also advised, for large lists of stakeholders, to group them by interest, and assess their importance within their interest group.

[12] https://www.smartsheet.com/free-stakeholder-analysis-templates

2- Prioritising them based on their interest and influence over the project using the matrix provided.
   - Identifying which stakeholders are likely to support or be critical of the project might be useful at that point to think about early engagement.

3- Understanding stakeholders to better engage with them and adapt the communication. Analysing the list of stakeholders, questions to answer here are:
   - What motivates the stakeholders?
   - What resources do you need from them?
   - How will you deal with opposition from critical stakeholders?
   - What is the best method for communication or engagement for different stakeholders?

The method proposes different templates including easy-to-use analysis matrix (to visualise levels of influence VS interest), stakeholder management spreadsheets but also for strategy planning, communication plans, or stakeholder management.

Goal: visualising and organising better data about stakeholders to improve/develop targeted communication.

Target users	Project managers
Geographical scale	Any
Online/Offline	Online

Example: this methodology is used mostly for project management.

Estimated resources	
Relative time investment	Low
Timeframe	Between 1 and 2 weeks
FTEs and profiles	About 2 people with good knowledge of the topic and basic IT skills
Direct costs	None

Pros	Cons
▪ Visual. ▪ Templates are free of charge. ▪ Thought for communication plan development. ▪ Flexible tool, can be applied to many different settings.	▪ Risk of bias by the implementing researcher(s) - individual values or existing networks can affect the identification process. ▪ Not used in a scientific setting ▪ Targeted towards communication rather than engagement. ▪ Limited guidance provided in the methodology.

Comparative table

Time investment	Between 1 and 2 weeks	**Internal/external**	Mostly internal
Flexibility	Easily adjustable to different contexts	**Neutrality**	Major risk of identification bias
Expertise required	Good knowledge of the stakeholder landscape	**Link to purpose**	Inform

Expertise finding tools

Expertise finding refers to the use of tools to evaluate and identify individuals with relevant experience in a field[13].

Social Networking

One of the ways that this can be done is through social networking. An example of some website/applications that can be used for expertise finding through social networking are: LinkedIn, Academia.edu, ResearchGate, Facebook and Twitter.

One of the advantages of using social networking as a tool for finding expertise is that there are *many features available* to consider, namely:

- webpages linked to users' profiles.
- social relationships such as: Facebook friendships, Twitter mutual following relationships, LinkedIn connections.
- resource containers: groups, Facebook pages, linked pages, the users that a given user follows are also resource containers.
- Resources: publications in resource containers[14].

A disadvantage is that *profile information on certain social networks, e.g. Facebook may be limited*, as many members give the smallest amount of information that is needed to register and do not explicitly state their interests and skills. However, this seems to be inapplicable to LinkedIn, where most users maintain and update their profiles[15].

Research shows that *Twitter is the most effective social network*, consistently outperforming other social networks; it is particularly effective in fields such as science, technology or computer engineering. When assessing people's expertise, the information about resources that they created themselves, own or annotated has shown to be more effective than profile information. In addition to this, resources that have been created by others, e.g. posts that appear on a person's Facebook page, or material published by a user's Twitter follower/LinkedIn connection enhances the precision of expertise assessment. Facebook seems to be the most effective tool in domains such as locations,

[13] Jing Zhang, Jie Tang, Juanzi Li, 2007: Expert Finding in a Social Network. DASFAA 4443, p. 1066- 1069 https://link.springer.com/chapter/10.1007/978-3-540-71703-4_106

[14] Alessandro Bozzon, Marco Brambilla, Stefano Ceri, Matteo Silvestri, Giuliano Vesci, 2013: Choosing the Right Crowd: Expert Finding in Social Networks. Proceedings of the 16th International Conference on Extending Database Technology, 638-648.

[15] *Ibid.*

music, sport and movies and television. LinkedIn seemed to fair the worst in comparison with the other social networks in all domains[16].

Scientific literature

Another method of expertise finding would be through research of scientific literature. There are *many digital platforms* that offer an array of publications, articles and papers such as Academic Search, Analytical Sciences Digital Library, Index Copernicus, Science Open, Semantic Scholar, Scientific Information Database and Google Scholar. Databases such as: Science Direct, Web of Science, Wiley, IEEE Explore Springer Link, Scopus. The advantage of using these websites is that they are usually *free to use* and offer a plethora of *different sources* such as scientific journals, articles and publications.

Knowledge Base

Another expert finding tool is knowledge base. Experts can be found via databases such as: Elsevier Expert LookUp, ExpertiseFinder, Authoratory, CoffeeChat.App.

These databases are often available at low cost and easily accessible. Elsevier Expert Lookup, for instance helps identify scientific experts, find experts that fulfil funding priorities and locate reviewers for papers and grant applications. Furthermore Elsevier Expert Lookup can also be used to check whether there any potential conflicts of interest with regard to funding streams and co-authorship[17]. Authoratory, another database, was designed to find experts in the field of life sciences, including biology, chemistry and medicine[18].

Both of these databases also use mining techniques to provide accurate results. Elsevier Expert Lookup employs the Elsevier Fingerprint Engine algorithms an inhouse created text-mining technique[19], while Authoratory uses software data-mining techniques to discover new information about the authors and bring the researcher up-to-date[20].

A potential disadvantage is that some of these databases offer limited results. For instance, Expertise Finder is primarily designed for journalists to connect them with faculty experts and academic experts. CoffeeChat.App adopted a unique way of receiving expertise-through sharing your own, you are entitled to a phone call with an expert in a field of your choosing[21]. While it is innovative it can also be time-consuming, and there is no guarantee that an expert in a given field is actually available.

(Community) Threaded Discussions and Community Questions and Answers

Community threaded discussions are convenient for *locating community expertise*. Up and running forums and *distribution lists* for employees with expertise in a given field can already be used and in the event that they are not a thought leader, activist or an individual that is able to create and develop such a forum[22]. Some examples of community threaded

[16] *Ibid.*
[17] https://www.elsevier.com/solutions/expert-lookup
[18] https://www.authoratory.com/
[19] https://www.elsevier.com/solutions/expert-lookup
[20] https://www.authoratory.com/
[21] https://www.coffeechat.app/#how-it-works
[22] Stan Garfield 2018, Expertise Locators Ask the Expert, Medium https://medium.com/@stangarfield/expertise-locators-and-ask-the-expert-f273db1e227c

discussion forums include: Live Science Forum, Science Forums, International Food Safety and Quality Network.

Similar to this, is Community Question Answering (CQA), which are web *applications where knowledge can be exchanged* between users by asking and *answering questions*. Quora, WikiAnswers, Yahoo!Answers and Answerbag are a few examples of CQA. A large amount of users participate online, huge amounts of data is generated[23] and elaborate answers may also be provided to the posed questions, unlike traditional search engines that retrieve information from pre-existent information repositories using keywords and phrases[24]. Some of the disadvantages of CQA is that there may be *thousands of questions posted on a regular basis*, making it difficult for an answerer to find and address questions in connection to their field of expertise. Another downside is that the process can be quite *time-consuming*, in addition to the time it takes to find the question, providing an elaborate answer may also take ample time. However, research shows that CQA websites such as Quora, comprise a set of highly dedicated domain experts who strive to fulfil the needs of the user posting the query but also provide answers that have a high lasting value to a larger audience[25].

[23] Chaoran Huang, Lina Yao, Xianzhi Wang, Boualem Benatallah, Xiang Zhang 2020, Software expert discovery via knowledge domain embeddings in a collaborative network 130 Elsevier 46-53 https://www.sciencedirect.com/science/article/abs/pii/S0167865518308596

[24] Chaoran Huang, Lina Yao, Xianzhi Wang & Manging Dong, 2018, A survey on expert recommendation in community question answering 33 Journal of Computer Science and Technology 625-653

[25] Ibid.