KE4CAP

Knowledge Exchange between
Climate Adaptation Platforms

Stepping up knowledge exchange between Climate Adaptation Platforms

Impacts, learning and ways forward

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Detailed information on all KE4CAP project activities and outputs is available at:
www.weadapt.org/platforms

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This report is intended for the Directorate-General for Climate Action (DG CLIMA), Deutsche Gesellshaft-für Internationale Zusammenarbeit (GIZ) GmbH, and prospective donors as an indication of the value added by the KE4CAP project, and the expressed need for its activities now and into the future. Members and non-members of the KE4CAP community may also find this report useful as a reflection on and insight into KE4CAP's Community of Practice. Additionally, the main report findings serve as food for future activities involving and building on the KE4CAP network, and those aimed at facilitating knowledge exchange and supporting communities of practice.

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Executive summary

KE4CAP: Stepping-up knowledge exchange between Climate Adaptation Knowledge Platforms

Climate adaptation platforms (CAPs) provide information, evidence, and guidance to inform and support climate change adaptation strategies and plans, and their implementation, at local, national, and transnational scales. This mission is growing in importance worldwide as the impacts of climate change escalate.

Against this backdrop, the KE4CAP project established a new forum for the practitioners, developers, operators and users of such platforms. The project allowed them to come together (electronically) for mutual learning to enhance their platforms' reach and effectiveness. In just a little over two years, the project established a unique community of over 200 international CAP developers and operators and specialists representing 30 platforms from regions across the globe, including Europe, Asia-Pacific, and North America. The project established new connections among this group to spur greater innovation and impact.

This report summarises the impacts of the project. As its contents demonstrate, KE4CAP created a new, diverse network of highly motivated CAP team members from around the globe. The project facilitated knowledge sharing, collaborative learning, and the generation of new ideas and thinking. A chief impact of the project is the genesis of an engaged, collaborative, and supportive network of platforms that learn from one another. Participants said that the project gave them unprecedented and highly valued access to peer support. The project facilitated the transfer of good practices, created opportunities to co-explore mutual needs, and raised awareness of emerging issues on the horizon. The experience led individual platform operators to make concrete changes – among them adopting better platform techniques and practices, and setting new goals and aspirations for platform development.

The report examines not only what the project achieved but also the ingredients of success. Three key factors were:

- **Emphasizing shared learning and open discussion**. This approach actively cultivated and maintained a safe space for network members to interact, learn, and collaborate with one another. Such an atmosphere invited, encouraged and built confidence amongst all participants to engage and to speak up. This, in turn, supported deep, honest reflection and sharing amongst participants, and broader engagement from platforms from across geographies and at all stages of development.

- **Creating a "library" of practical information and examples of successful platform work**. The project developed and curated the KE4CAP workspace, a repository of resources for participating platforms. The workspace includes information about the

ways in which platforms can and do inform their users, and support climate adaptation strategies. The workspace also provides details about the development, aims, funding, structure, and management of participating platforms.

- **Generating a 12-point blueprint for adaptation platform development**. The 12 topics (selected by project participants) created the foundations of the KE4CAP framework and covered the main work areas for adaptation platforms generally. This framework served as the basis for focused, productive knowledge exchanges during the life of the project. It also provides a blueprint for future development of existing and new platforms, and interaction among them.

This report also looks forward by offering ideas for ways to build on the KE4CAP experience and network, to foster ongoing knowledge exchange, and to support of related communities of practice. The project itself raised the ambition of participants to use the platforms to make greater contributions to international climate goals. For example, the activities and discussions held around climate change adaptation monitoring, reporting, and evaluation triggered new thinking amongst participants about how they can position themselves to support such processes, and how they can capture and use outputs and learning as a means to inform ongoing adaptation efforts.

This report provides an indication of the value-added of the project. It also argues for the creation of a permanent, ongoing network that can capitalise on the experiences of this initial KE4CAP effort, and lead to greater capacity building of adaptation platforms to help inform measures needed to cope with the ramifications of climate change.

The KE4CAP project and activities

The KE4CAP project (November 2019 – January 2022) aimed to stimulate knowledge exchange between climate adaptation platforms (CAPs) across transnational, regional, national and sub-national scales.

CAPs around the world provide access to knowledge and information to inform and inspire action on climate change, including data and information, current and future vulnerability assessments, disaster risk management, adaptation case studies, and decision tools that support adaptation planning. These platforms are at different stages of maturity; some are at the planning stage while others have been established for over a decade. What they share is a common role as providers and brokers of knowledge for climate change adaptation. This brings a multitude of shared issues and challenges that are common across CAPs, which in turn provide a basis for learning and working together as a community. Acting on this opportunity – to learn, to collaborate, and to cooperate – requires a concerted approach to effectively exchange information, ideas, and experiences. The KE4CAP project filled this gap: it provided opportunities for platform operators, developers and managers from different backgrounds and contexts to connect with, support, and learn from one another.

The practical relevance of the KE4CAP project pertains to the growing importance and need for climate adaptation action. The need for climate change adaptation, and the role of platforms in enabling it, is increasingly recognised by decision makers.[1] In line with the Paris Agreement (2015), strengthening cooperation on enhancing action on adaptation highlights the need to improve and accelerate the generation, accessibility and relevance of climate knowledge and platforms' capacities to support adaptation planning and implementation. Furthermore, objectives set out under the Global Framework for Climate Services (GFCS) as well as the EU Adaptation Strategy (2021) under the European Green Deal highlight the role of and need for services provided by CAPs to support and enhance climate action. Consistent with these, the KE4CAP project set out to facilitate exchange and learning to inspire the advancement of CAPs in terms of their scope, governance, functionality, and management.

The final Synthesis Report from the KE4CAP project outlines the aims and objectives of the project and summarises the wide-ranging discussions held throughout the project on lessons learned and challenges being addressed by CAPs across the community. Only a summary of the approach taken by KE4CAP is given here.

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1   UN Climate Change Conference UK 2021 – Ministerial Chairs summary.

KE4CAP activities

The KE4CAP project was initially planned as a series of in-person challenge-focused events primarily focused on bringing together EU platforms with established national platforms from Australia, Canada, and Japan, and with an intention to bring in newer platforms for example in South Africa, India, Argentina, and Mexico. Following the onset of the COVID-19 pandemic, from early 2020 the programme of activities was moved online and sought to engage a much wider and more international audience of over 30 national and regional CAPs.

KE4CAP activities focused on the following five core areas (see Figure 1):

- **Establishing a global network**: KE4CAP established a global network of platform operators, developers and managers (see Appendix 1). This community of practice was developed primarily through outreach to national platform teams, leveraging existing personal connections, building on a network developed under the earlier CAPAN project, and including participants from the International Conferences for Climate Change Adaptation Platforms.

- **Facilitating knowledge sharing**: KE4CAP hosted eight knowledge exchange events: five topic-led events led by the KE4CAP team and three challenge-focused events led by KE4CAP national partners (Australia, Canada and Japan). These were followed by a synthesis workshop in September 2021 (co-delivered with Climate-ADAPT) that consolidated learnings and discussed next steps within the KE4CAP network (see Appendix 1). All events included presentations from community members to showcase insights and examples, and interactive activities to encourage peer-to-peer engagement, experience sharing, and mutual learning. Exploring issues, gaps & innovations, KE4CAP's activities focused on twelve key topics developed by the KE4CAP team with the CAP community that 'frame' the development and operation of CAPs (see Appendix 1). These topics were also used to structure a detailed survey of CAPs which gathered information on good practices employed by CAPs, successful innovations, and key challenges with respect to each topic.

- **Providing direct support**: In addition to network-focused knowledge exchange activities, the KE4CAP project also directly supported several CAPs. This support has ranged from assisting with the design and implementation of in-country workshops, to providing guidance for the development of early versions of the CAP, to connecting CAP teams with peers to share insights and advice on specific issues.

- **Knowledge management & sharing**: To underpin the knowledge sharing, KE4CAP developed an online workspace to host and share knowledge and outputs from each activity. Also hosted on this workspace is a listing of CAPs participating in the network and individual CAP profiles which aim to share knowledge of each platform engaged in the network.

- **Advocating for CAPs**: In addition to activities within the KE4CAP network, the KE4CAP team led and participated in key international events, including Adaptation Futures 2020, ECCA 2021 and COP26, advocating for the importance and value of CAPs.

Development of a global network of climate adaptation platforms

Framing KE4CAP — A 12-topic framework for knowledge exchange to enable learning by Climate Adaptation Platforms (CAPs) on existing & emerging needs, opportunities & challenges

Facilitating & enabling knowledge exchange between CAPs	Improving knowledge of CAPs & understanding of their use	Supporting CAP teams
Topic focused knowledge exchange events • Examples of good practices & innovations • Facilitating peer-to-peer learning through plenary & breakout discussions	**Advocating for CAPs** • Providing input to the EU Adaptation Strategy • Hosting high-profile events on CAPs & related opportunities	**Supporting platform teams** • Sharing experiences on capacity building • Supporting in-country event planning & delivery • Promoting & facilitating peer-to-peer learning
Challenge focused events • Country-focused examples of good practices, innovations & challenges • Facilitating peer-to-peer learning through plenary & breakout discussions	**Profiling CAPs** • Collating data & information on CAPS • Highlighting successful practices and innovations	**Sharing good practices & innovations** • Providing information that enables knowledge transfer among platforms, including on platform developments, good practices & innovations

Online knowledge sharing space

Profiles of participating CAPs & people	Event reports, key messages, & pre-recorded presentations	Platform survey report: innovations & shared challenges	KE4CAP project & network information

Figure 1. KE4CAP's core activities.

Investigating KE4CAP's impact

This section summarises the approach used to investigate and evaluate the impact of the KE4CAP project.

Scoping

All KE4CAP's activities were analysed to identify impact pathways – mechanisms by which those interacting with the project could benefit from that interaction – which could be used as a framework for evaluating the impact of KE4CAP. This involved reviewing the original KE4CAP project proposal, the various knowledge exchange events and activities and responses to a post-events survey that was shared with KE4CAP event participants in May, 2021. This small survey asked participants if they found the events useful, including what worked well, what could be improved, and what additional topics participants were interested in.

Eight impact pathways were identified – collaboration, direct assistance, framing CAPs, inspiration, learning and discussions, networking, stocktaking, and value demonstration.

Reviewing select literature

In parallel to the scoping, evaluation concepts and examples were drawn from relevant literature and used to inform the impact analysis process and framework. Further notes are provided in Appendix 2. The review highlighted several concepts and aspects relevant for assessing the impact of KE4CAP:

- Enabling 'collective learning'. Araujo et al. (2020) describe two types of collective learning: (i) learning from structured inquiry and analysis therein, for example reviewing and reflecting on the KE4CAP network's collective experience; and (ii) learning that is collaborative and emergent, for example discussing new ideas and solutions with a group (Cundill and Harvey, 2019). This latter type of collaborative learning involves the facilitation of knowledge sharing, peer-to-peer learning, and co-creation of experiences around a shared purpose or interest.

- Enabling 'collaboration' and 'mutual learning'. Koelle et al., (2017) highlight how the practice of sharing real-life stories of successes and challenges is useful in building trust and addressing diversity, as well as inciting mechanisms for individual or group reflection. It also requires a shared commitment among participants to learn from and with each other.

- Creating a 'safe space' for discussion and knowledge sharing. A safe space for discussion is crucial for enabling participants to feel comfortable to speak openly about their individual experiences related to their work (Young et al., 2017). The added value of participants sharing their individual challenges not only informs and empowers researchers and practitioners involved but engenders trust and peer-to-peer relationships that can support continued knowledge exchange.

- Bringing about (long-term) changes in practice and 'realised value'- changes in practice that lead to improved outcomes (Wenger et al., 2011).

- Contributing to increased 'knowledge capital' – "a communities' or group's collective knowledge, skill, and perspective, as well as relationships and connections among members" (Ozturk and Ozcinar, 2013). Knowledge capital can be applied immediately or saved and applied later (Wenger et al., 2011).

- Supporting 'transformative learning' – the process through which adult learners interpret and reinterpret new information, evaluate their past ideas, and engage in critical reflection (Mezirow, 2003). This is related to Wenger et al. (2011)'s 'Reframing value', where learning causes a reconsideration of how success is defined.

- Building networks and communities, where a network "refers to the set of relationships, personal interactions, and connections among participants who have personal reasons to connect… a set of nodes and links with affordances for learning", and a community "refers to the development of a shared identity around a topic or set of challenges… [and] represents a collective intention – however tacit and distributed – to steward a domain of knowledge and to sustain learning about it" (Wenger et al., 2011).

These concepts were combined with insights from the scoping to produce an initial impact analysis framework (see Appendix 2).

Interviews

The scoping, literature review, and initial impact analysis framework were used to develop questions on which to base semi-structured interviews with KE4CAP participants (see Appendix 2). These questions were designed to gain an understanding of the value of the KE4CAP project from the perspective of its network members. Starting questions aimed at drawing out specific aspects of the KE4CAP project that participants found useful. This involved inquiring about participants' nuanced learning experiences and how comfortable they felt in contributing to discussions and sharing challenges that they were experiencing. Subsequent questions focused on the impact of KE4CAP's knowledge exchange activities and any changes in practice of individual CAPs. These were followed by questions that focused on areas of improvement and ways forward for the KE4CAP project. Additional questions were also designed for KE4CAP's project partners (Japan, Canada and Australia) and examined the added value of the targeted discussions and the working experience of those partnerships.

In July 2021, ten semi-structured interviews with individual members of the KE4CAP community were conducted. The interviews were conducted online with KE4CAP members from Australia, Austria, Canada, Italy, Japan, the Philippines, Scotland, South Africa, Taiwan, and the European platform Climate-ADAPT. Interview participants were selected based on their varied geographical representation and high level of participation in KE4CAP.

A list of guiding questions, which also served as an interview schedule, were provided to interviewees in advance (see Appendix 2). Nevertheless, conversations proceeded more naturally and allowed for genuine and descriptive responses.

Most interviews took 40-60 minutes. Prior to each interview, permission to record and transcribe the interview was requested and participants' confidentially was respected at all times.

Analysis

Five analytical clusters emerged from interview data, each representing a distinct aspect of the KE4CAP project (see Table 1):

1. The KE4CAP project

2. Knowledge capital: Learning outcomes

3. Changes in practice

4. Challenges

5. CAP suggestions

Based on these clusters, the scoping and literature review, the initial impact analysis framework was further developed to reflect the richness of interviewees' responses. The final framework used to evaluate the impact is given in Tables 1 and 2.

Table 1. Final framework of evaluation: categorisation of impacts

Impact category	Description of category
The KE4CAP project	Assessment of the overall added value of the KE4CAP project in terms of tangible outcomes, outputs and transferable processes (including its approach to knowledge exchange through processes of shared learning and open discussion), from the perspective of participants.
Knowledge capital: Learning outcomes	Assessment of the knowledge transferred and acquired during the KE4CAP project through the identification of specific and intangible learning outcomes from KE4CAP's knowledge exchange activities.
Changes in practice	Assessment of KE4CAP's applied value through the identification of observed changes in practice and thinking of individual CAPs, as a result of learning from, and interacting with the KE4CAP project.
Challenges	Identification of pertinent challenges faced by individual network members and by CAPs that should be addressed in future work.
CAP suggestions	Ideas for future work from the perspective of individual network members and by CAPs.

Table 2. Final framework of evaluation: analysis of each impact.

Sub-component	Description of sub-component		
Impact	(e.g., enhanced peer-to-peer engagement)		
Analysis	Short description/analysis of impact		
CAP example(s)	Relevant quote(s) from interviews or specified CAP that mentioned about impact		
Community of practice	How impact has contributed to the development of a community of practice based on proxy indicators:		
		Networking	
		Collaboration	
		Framing CAPs	
		Inspiration	
		Learning and discussions	
		Consolidating information	
		Stocktaking	
		Direct assistance	
Change in practice	How impact has contributed to the development of a community of practice based on proxy indicators:		
		Innovation in practice	
		Collaborative arrangements	
		Valuing connections	
		Leveraging connections	
		Transferring learning practices	
		Implementation of advice/solutions	
Impact relevance (1–3)	Impact ranked based on how many CAPs mentioned the impact in the interviews.		
		1 = Impact relates to 1 or 2 CAPs	
		2 = Impact relates to 3 or 4 CAPs	
		3 = Impact relates to 5 or more CAPs	
Impact importance	Determined by the KE4CAP team. This can relate to the significance of each impact of KE4CAP and how it meets the objectives of the project.		

KE4CAP's impact

The sections below summarise the findings in line with the five impact categories (see Table 1). The full and anonymised analysis of the interview responses are available on request. Please email Julia Barrott to request access.[2]

1. The KE4CAP project

Overall, the approach taken by the KE4CAP project has brought multiple benefits:

- **Unprecedented access to contacts, information and peer-support**: KE4CAP has provided CAPs with an unprecedented opportunity and stimulus to connect with, learn from and discover other CAPs. Through KE4CAP, CAPs have been able to access information and knowledge they "never would have encountered", and meet, get to know and "actually talk to the people who build and operate the platform systems". Interviewees remarked that the simple ability to connect and discuss challenges with peers working on similar challenges has been hugely beneficial in helping them think through their practices and goals: one interviewee remarked that it is "reassuring when you see and hear people who are involved in similar activity as you are thinking along the same lines or are asking themselves the same questions".

- **Gaining visibility and connecting with other relevant platforms**: KE4CAP's programme of online activities has supported and encouraged the participation of numerous, globally distributed CAPs. Interviewees noted that this added value to the network in terms of providing diverse perspectives on promoting and supporting climate change adaptation across scales. Interviewees value the international exposure and vital networking opportunities KE4CAP has provided and emphasised that these opportunities were not available prior to the KE4CAP project. The inclusion of CAPs operating across different sectors and levels of governance, and how KE4CAP highlighted the complementary relationships and need for collaboration and vertical integration between these CAPs, were also valued by interviewees.

- **Creating time and opportunities for trust-building and exchange**: KE4CAP has successfully brought together and built positive relationships across a transnational network of individuals, organisations and CAPs. Interview respondents highlighted that the sustained interaction and collaboration over time enabled by KE4CAP events was key for building trust and familiarity among actors engaged with the KE4CAP network. This familiarity has facilitated understanding of each other's experience and activities, which has, in turn, enabled more productive conversations. Through these actions, KE4CAP has both strengthened existing bilateral relations and cultivated new ones. Through the knowledge exchange events KE4CAP has also given CAPs opportunities to consider topics, challenges and opportunities more fully.

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- **Composing grounded, relatable and inclusive safe spaces for discussion**: Interviewees remarked on the friendly ambience of the events and how this, combined with the KE4CAP team's active inclusion of CAPs in presentations and discussions (and not recording sessions for external dissemination), helped to create a safe and welcoming space for open discussions between participants. This made participants feel comfortable to speak honestly about their relevant individual experiences. Interviewees said this also played a vital role in building trust and encouraging CAPs to share their perspectives and exchange knowledge. Several interviewees also noted that methods of nonverbal communication – such as using virtual 'reactions', 'liking' an item, and anonymous voting on online polls – helped some participants to express their opinion in a more nuanced way.

- **Facilitating learning and inspiration for platform development**: Interviewees noted that the structured topic-based approach (see Appendix 1) to facilitating learning and discussions in KE4CAP was useful for identifying specific problem areas and breaking down complex issues into focused thematic discussions. Peer-to-peer engagement during the events also provided network members with inspiration for platform development and feedback and insights from peers on specific issues. As well as the events themselves, the provision of pre-recorded presentations on the KE4CAP workspace was highly valued for enabling asynchronous learning and allowing more time for exchange and discussion during events.

- **Promoting reflection and stocktaking**: KE4CAP has encouraged and enabled platforms to both learn from other platforms and actively reflect on their own practices. Interviewees noted how filling out the KE4CAP survey provided platform teams with a "rare" opportunity to reflect on how they approach the topics in the KE4CAP framework (see Appendix 1). Interviewees noted that the platform profiles built using this data and shared on the KE4CAP workspace have been useful for allowing platforms to compare and see how other platforms have been and are being developed, financed and managed, as well as their focus areas and initial motivation for development.

2. Knowledge capital

The KE4CAP project's contribution to knowledge capital is embodied in the collective knowledge, expertise, ideas, and practices shared with the network:

- **Building a shared knowledge base**: Interviewees appreciated the easily accessible repository of information provided in the KE4CAP workspace (www.weadapt.org/platforms), which includes an inventory of event reports, pre-recorded presentations, CAP profiles and contact information that has allowed various members to revisit specific sources of information and share these with their colleagues and networks. Climate-ADAPT are planning to link to this repository of information to give it more visibility across EU member states.

- **Sharing practices and methods**: The interviewees value KE4CAP for providing pertinent examples of good practices, innovations and transferrable tools, and insights into how other CAPs operate and how they have developed over time. One interviewee remarked that these insights "help us better understand what the options are…and some different ways of approaching problems that have already been solved elsewhere." Through KE4CAP events interviewees have been inspired by and learned from others' methods including, for example, approaches to data visualisation, methods of intra-platform communication and knowledge sharing, approaches to transferring data into useful and interesting information for platform users, the use and management of climate data, and approaches to linking content.

- **Sharing lived experiences and raising awareness**: Interviewees valued being able to hear others' individual perspectives and lived experiences. Interviewees highlighted the importance of this deeper sharing of practices and learning: "it's just not what people have done, but how they've gone about doing it." This sharing of experiences has been useful in raising awareness and generating understanding about emerging challenges and opportunities that have yet to be realised by individual CAPs and exploring these from the different perspectives, contexts and capabilities of the diverse CAPs participating in the network. Examples shared by interviewees show that this new knowledge has already helped to improve CAPs' approaches and enhance platform functionalities (see below). Interviewees also valued KE4CAP for highlighting topics and opportunities that CAPs had not previously considered, for example the role of CAPs in global adaptation MRE and entry points for connecting platforms across governance levels and internationally.

3. Applied value

The KE4CAP project has supported transformative learning and precipitated changes in practice and thinking amongst participating CAPs:

- **Inspiring new and improved practices**: Interviewees reported several changes in practice as a direct result of their involvement with KE4CAP. These include the engagement of indigenous knowledge practitioners to incorporate their lessons learned into their platform, the development of subnational platforms to complement the national platform, and the expansion of platform functionality to go beyond providing information on physical risks and climate impacts to also support adaptation planning. One interviewee remarked that "Because of the experience with KE4CAP, we've seen the need and the opportunity to build our platform functionalities to be more 'end-to-end'". Interviewees remarked that the conceptualisation of CAPs in KE4CAP was also inspirational: that the role of CAPs is not just to inform or to increase awareness and understanding, but to also promote action and build capacities of people and to disseminate relevant knowledge in a way that is transformative. As a result of KE4CAP, interviewees have initiated discussions within their teams on how to improve their practices, for example on how they display platform content, visualise data, and better understand and meet users' needs.

- **Impacts beyond the network**: Learning gained from KE4CAP events has extended beyond event participants. Several interviewees took notes of relevant information shared during KE4CAP events and on the KE4CAP workspace and relayed useful information, including tools and functions that were identified on other CAPs, back to their respective teams and colleagues. Others have translated insights from KE4CAP to share with their own networks.

- **Building relationships and promoting collaboration and cooperation**: "KE4CAP was a catalyser to make a lot of things happen." Interviewees described follow-up meetings and out-of-session correspondences between various members of KE4CAP that exemplify strengthened collaboration between CAPs as a result of the KE4CAP project. These collaborative activities include the further sharing of insights and tools, exchanging on best practices on different aspects of platform management, and coproducing shared approaches.

- **Developing capacity and promoting transformation**: The KE4CAP team has assisted individual CAPs to coordinate external support and collaboration with third-party stakeholders. Relevant interviewees described how these interactions led to useful critical reflections, helped establish important relationships with key contacts (with KE4CAP team members providing introductions and/or acting as mediators), resulted in the setting of new goals and targets by the individual CAP, and increased their desire to share their learnings from the KE4CAP project with researchers and practitioners outside of the KE4CAP network.

One of the most important outcomes of the KE4CAP project has been the founding of a valued community of practice of CAP practitioners, managers and experts. Developed organically through KE4CAP's approach to knowledge exchange, shared learning, open discussion and collaboration, this community – the KE4CAP network – is active, engaged and committed to continuing to work together (Figure 2). The members of this community share a collective endeavour to enhance CAPs, both individually and collectively, to strengthen collaboration, and to work together to address common and emerging challenges, all with a view to support and promote climate action.

In their responses, interviewees emphasised the long-term value of continuing to participate in and engage with the KE4CAP network. This was echoed more broadly across CAPs during the KE4CAP Synthesis Workshop. CAPs see activities and collaboration with KE4CAP network as key to the increasing recognition of the role of platforms in informing and supporting climate adaptation action and in consolidating knowledge on climate adaptation services. In both the interviews and KE4CAP Synthesis Workshop CAPs affirmed their commitment to both participating in and taking more active and central roles in this network going forward.

If ongoing coordination support is provided, this community of practice initiated under KE4CAP could play a vital role in supporting sustained and deep knowledge exchange practices between all CAPs internationally, marking a new level of global collaboration on climate action.
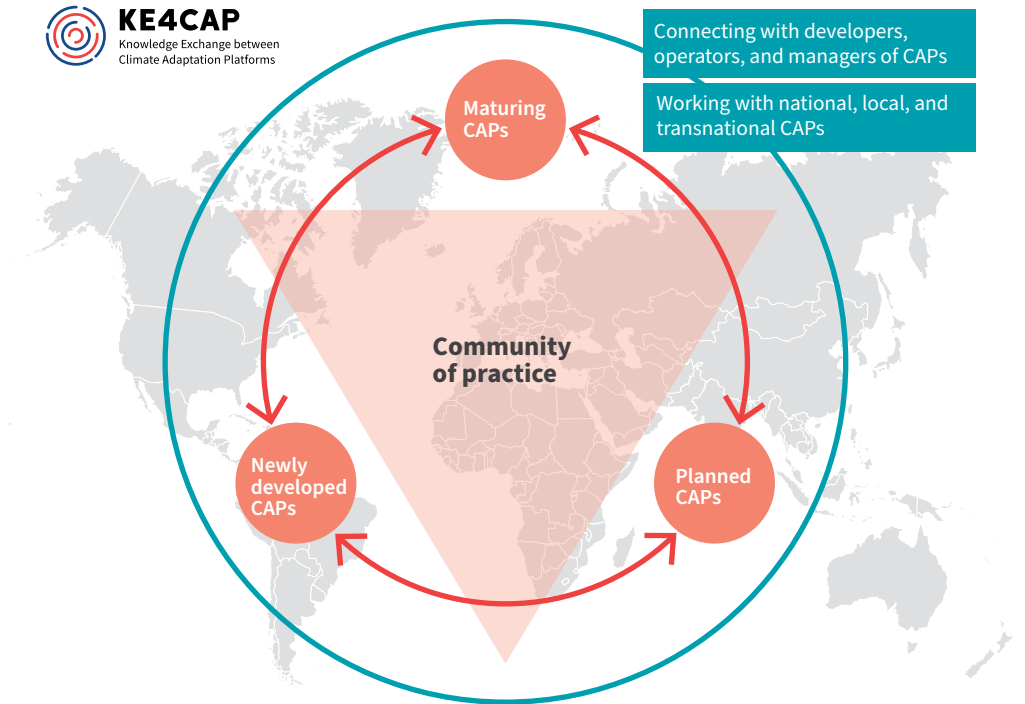
Figure 2. KE4CAP's community of practice

4. Challenges and points for future improvement

While KE4CAP has been largely successful, there are points for improvement. These are relevant for future versions of the KE4CAP project and for other projects promoting knowledge exchange and developing networks and communities of practice.

Several interviewees highlighted geographical gaps in the representation of CAPs involved in the KE4CAP project, including low representation of South America, Island nations, and less developed countries. Although a focus on EU adaptation platforms provided network members with valuable insights into maturing CAPs that already exist, many interviewees are also interested in learning about different narratives and contexts of climate adaptation outside of the EU region. A lack of inclusivity of 'infant' CAPs and that KE4CAP events presumed that participants had an existing adaptation platform that they are working on was also noted. This was a barrier to participation to planned and emerging CAPs. Multiple interviewees discussed the need to involve other relevant stakeholders going forward, including representatives from the private sector, which is increasingly providing climate-related consultancy services.

Some interviewees mentioned subtle challenges relating to a presumed understanding of scientific knowledge and technical know-how when interacting with the KE4CAP project. Unwritten rules of engagement also represented intangible barriers to contributing to discussions and connecting to and collaborating further with specific CAPs. With regards to discussions, small group discussions are seen as favourable over plenary discussion as it is easier for participants to contribute. Tools such as Miro are useful but require considered use as some participants are not able to access and input into them directly, which limits their participation.

How to fund CAPs remains a key area for future work and discussion. Interviewees specifically commented on the difficulty of financing CAPs. The lack of resources to develop or enhance platforms in ways that KE4CAP members had observed on other existing CAPs makes it difficult for them to capitalise on the knowledge exchanges provided through the KE4CAP project (business models for CAPs were discussed in the events hosted by Australia but this was an in-person workshop so the broader KE4CAP community was unable to participate. Discussions are summarised in the workshop report). Collating information on this funding-implementation gap and the opportunities from out-scaling of successful CAP innovations could be used to leverage increased funding for CAPs.

It was also remarked that the role of CAPs remains poorly defined and dominated by certain knowledge systems. This and how CAPs are framed could be better explored and addressed in a future phase of KE4CAP.

5. Where next?

Interviewees shared numerous ideas, requests and suggestions for taking this community of practice forward. Many of these suggestions are complementary and some address existing challenges that were specifically raised by individual CAPs (see above).

These suggestions reflect the feeling that "we've only just scratched the surface" in the KE4CAP project, and that there is huge potential to be gained from further learning and collaboration.

Interviewees' suggestions include:

- To work together to develop a work plan of events and deliverables (see topic suggestions below).

- Form regional hubs or sub-groups of CAPs to promote regional collaboration and cooperation and more context-specific discussions and exchanges.

- Form topic-focused working groups to take a deeper dive on shared challenges.

- Use these structures to undertake more focused and deeper discussions on topics and/ or sectors (e.g., supporting the water sector), and target these towards specific audiences (e.g., regional events, different CAP development phases).

- Continue to promote collaboration and coordination to improve CAPs interoperability.

- Continue to support reflection and self-reporting by CAPs, for example through repeating the KE4CAP survey at certain intervals.

- Co-explore the role and framing of CAPs with this community to better structure future discussions and work towards a shared definition of CAPs, including their role within the Global Framework on Climate Services and in contributing to the international climate goals.

- Find and encourage stakeholders from underrepresented regions to participate in and connect with the KE4CAP network and related activities. This includes areas without CAPs, where CAPs are planned but not yet developed, and less developed countries.

- Use clear terminology and provide (or better, co-produce with the network) background and pre-event material that describes and unpacks the concepts being discussed. As well as working towards a shared understanding, this activity would be beneficial for recognising and including the different perspectives and nuances associated with these concepts across the participating CAPs.

- Share and invite network participants to co-sign an internal letter of intent that shows network members' commitment to working together, to build trust and help participants to feel comfortable to reach out to one another. Create more opportunities for internal communication between network members, for example via LinkedIn.

- Make CAP funding a key focus for future activities.

- Topics for discussion and potential co-development of guidelines and methodologies include:

  - Institutionalising CAPs (moving away from project financing).

  - Attracting funding.

  - Identifying users and their needs.

  - Communicating risk and undertaking inclusive, disaggregated vulnerability assessments.

  - Roadmap for jumpstarting CAPs, to pave a clear path for setting up platforms and help teams make best use of limited resources.

  - Climate knowledge brokering.

  - Connecting offline and online activities, especially for poorer communities and with regards to connecting CAPs with on the ground needs.

  - CAP governance and governance arrangements.

  - Including local and traditional knowledge while respecting ownership of this knowledge.

  - Integrating partly informal local knowledge with scientific models/assessments.

  - CAP monitoring, evaluation and learning to assess and understand impact.

  - Rationalising and retiring/archiving CAP content.

  - Scientific standards on quality control/ minimum standards.

  - Managing legal liability and licensing, including the use of platforms by third parties.

  - Increasing inter-platform integration, interaction and connectivity.

  - Developing business models, including navigating open source vs. proprietary services.

  - Democratising climate intelligence to ensure all potential stakeholders benefit from CAPs.

  - Interacting and collaborating with the private sector.

- Qualitative and quantitative indicators for measuring, resilience, adaptive capacity etc.

- Examples of successful knowledge translation and mainstreaming.

- Connecting with sectors and related topic areas, e.g., disaster risk reduction.

- Using adaptation reporting to highlight sectoral co-benefits of adaptation interventions, for example improved human health in municipalities as a result of increased green space.

- Managing the evolution and broadening of what is considered climate adaptation knowledge, which now includes social justice, transformative adaptation, loss and damage etc.

Conclusions

The findings of this analysis of the impacts of the KE4CAP project highlight the significant value added to the CAP community by the project. By establishing and regularly convening an active global network of CAPs, significant cross-fertilisation of ideas and on-going collaborative learning has been enabled and promoted. Through connecting the global community and allowing time and space to interact, KE4CAP has provided CAPs with unprecedented and highly valued access to peer support. The knowledge exchange events and activities have facilitated the sharing of experiences in ways that have supported the transfer of good practices, have allowed participants to co-explore needs and possible approaches relating to different relevant topics, and have raised awareness of emerging issues. This knowledge exchange and the learning it has enabled has already resulted in changes in practice of individual CAPs and in the setting of new goals and aspirations for platform development.

Central to the success of the knowledge exchange has been KE4CAP's facilitation of shared learning and open discussion, which has actively cultivated and maintained a safe space for network members to interact, learn from and collaborate with one another. This in turn has supported deeper and honest reflection and sharing amongst participants. Furthermore, the resources developed and curated by the KE4CAP project and network, and shared in the KE4CAP workspace, have provided members with a rich repository of information and examples, including explanations of the ways in which platforms are informing and supporting climate adaptation strategies, and profiles detailing the development, aims, funding, structure, and management of fellow CAPs.

Most importantly, KE4CAP activities have established a motivated, enthusiastic and collaborative community of practice amongst these CAPs. This community is ready and willing to both continue these knowledge exchanges and expand on them: to go deeper into certain topics, and to scale-up activities aimed at supporting greater regional and global collaboration.

To continue and further develop this community of practice effectively, it is important to reflect on the details of what worked well and what not so well during this KE4CAP project, and why. Accordingly, the report has highlighted specific challenges faced by network members and individual CAPs in connecting with and making the most of their KE4CAP engagement. In addition, the analysis within this report, along with that in the final Synthesis Report, provides entry points for improving future versions of the KE4CAP project and similar projects going forward.

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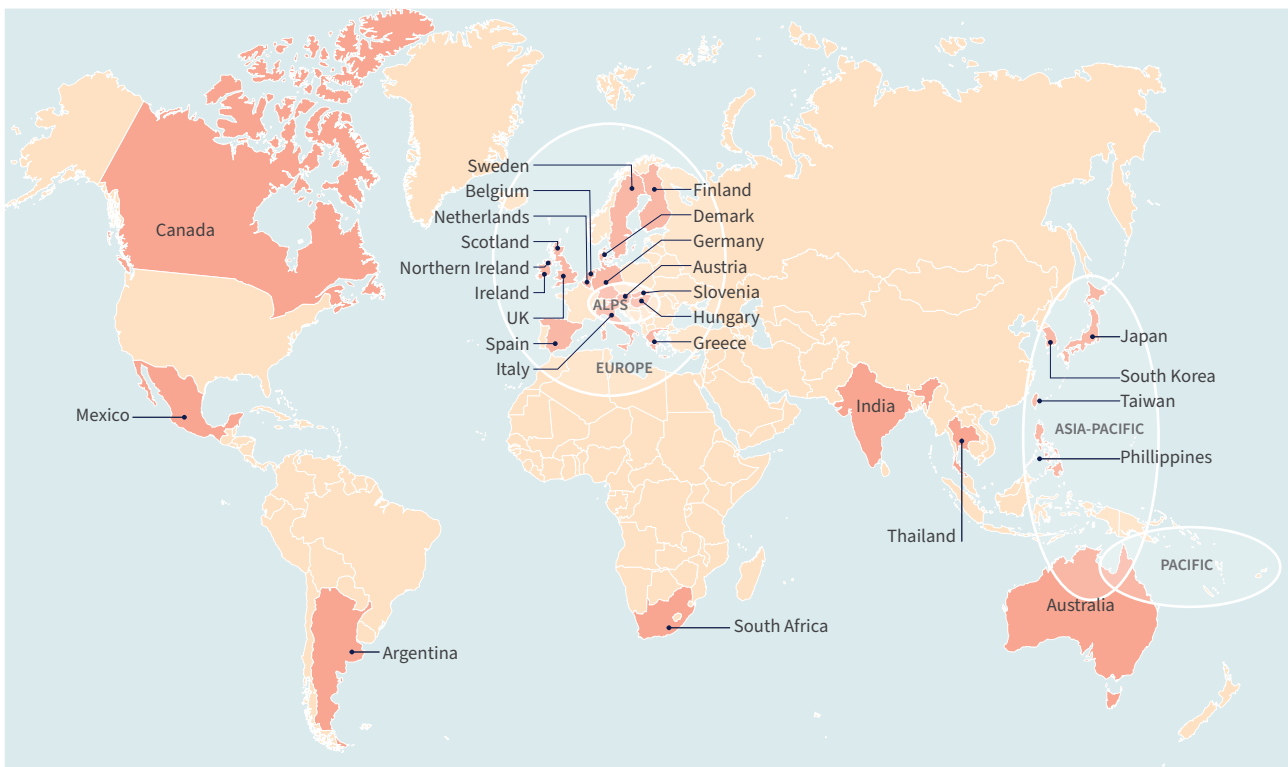
Appendix 1: Details of the KE4CAP project
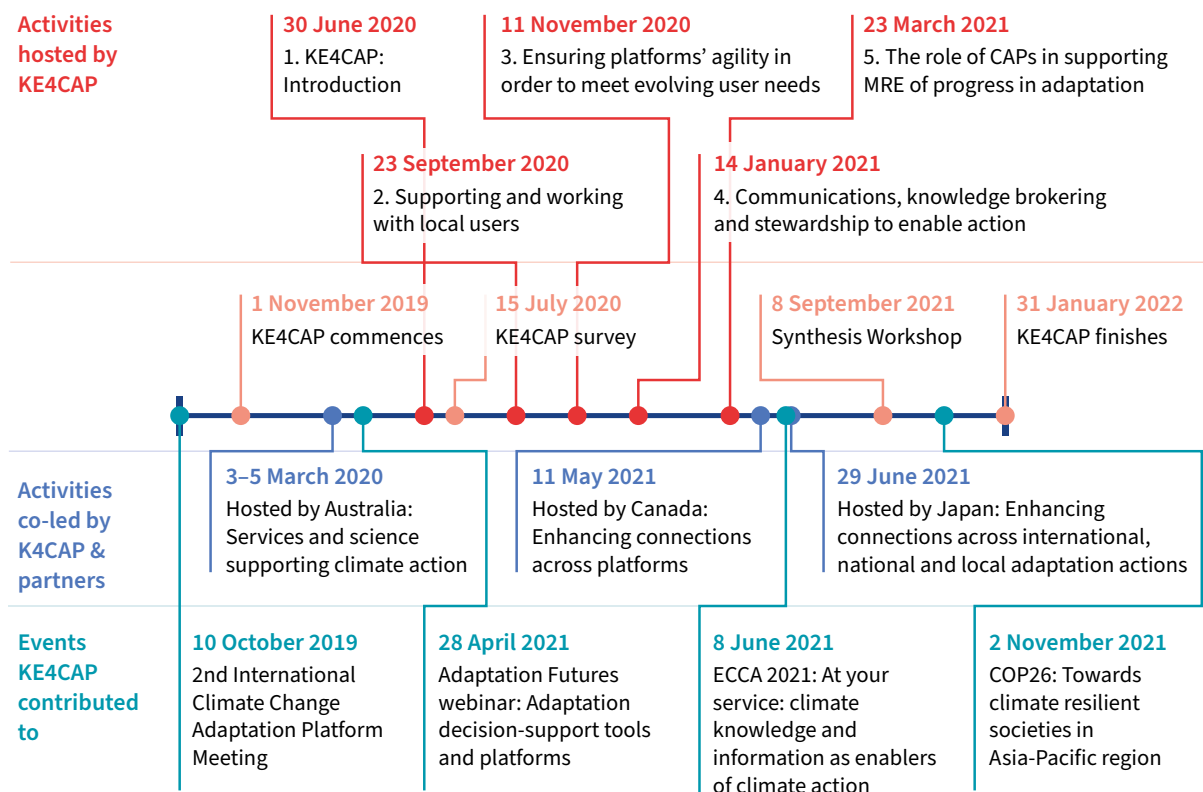

Figure 3: The KE4CAP community.

Activities hosted by KE4CAP

30 June 2020
1. KE4CAP: Introduction

11 November 2020
3. Ensuring platforms' agility in order to meet evolving user needs

23 March 2021
5. The role of CAPs in supporting MRE of progress in adaptation

23 September 2020
2. Supporting and working with local users

14 January 2021
4. Communications, knowledge brokering and stewardship to enable action

1 November 2019
KE4CAP commences

15 July 2020
KE4CAP survey

8 September 2021
Synthesis Workshop

31 January 2022
KE4CAP finishes

Activities co-led by K4CAP & partners

3–5 March 2020
Hosted by Australia: Services and science supporting climate action

11 May 2021
Hosted by Canada: Enhancing connections across platforms

29 June 2021
Hosted by Japan: Enhancing connections across international, national and local adaptation actions

Events KE4CAP contributed to

10 October 2019
2nd International Climate Change Adaptation Platform Meeting

28 April 2021
Adaptation Futures webinar: Adaptation decision-support tools and platforms

8 June 2021
ECCA 2021: At your service: climate knowledge and information as enablers of climate action

2 November 2021
COP26: Towards climate resilient societies in Asia-Pacific region

Figure 4: A timeline of KE4CAP events 2019–2021.

Topic 1:
Co-evaluation, learning and capacity development to drive platform improvement

Topic 2:
Supporting and working with local users

Topic 3:
Role of CAPs in supporting monitoring, reporting and evaluation of adaptation progress

Topic 4:
Communications, knowledge brokering and stewardship to stimulate and enable action

Topic 5:
Integration of cultural knowledge, capacities and needs into CAPs

Topic 6:
Retaining relevance of CAPs in a fast-moving world

Topic 7:
Integration and coherence across CAPs

Topic 8:
Business models and value propositions for financing CAPs

Topic 9:
Quality assurance, credibility and usability of CAPS

Topic 10:
Platform architecture and technical development

Topic 11:
Governance of CAPs

Topic 12:
Social justice and equity

Figure 5: The framework of twelve key topics.

Appendix 2: Details used in the impact analysis

Insights from select literature

Wenger and colleagues (2011) provided a conceptual foundation for assessing value creation in communities and networks in a way that links project-specific activities to desired outcomes. Their framework included relevant indicators for data collection and analysis that were pertinent to the evaluation of KE4CAP.

Project specific examples also provided critical points of evaluation. A review of the Future Climate for Africa (FCFA) programme by Araujo et al. (2020) highlighted the importance of promoting collective learning. The notion of collective learning draws on theories of social learning and has been increasingly referred to in studies of climate change adaptation (Ensor and Harvey, 2015). In the case of the KE4CAP project, collective learning considers both, (i) learning from structured inquiry and analysis therein, for example reviewing and reflecting on the KE4CAP network's collective experience; and (ii) learning that is collaborative and emergent, for example discussing new ideas and solutions with a group (Cundill and Harvey, 2019).

The latter aspect of learning involves the facilitation of knowledge sharing, peer-to-peer learning, and co-creation of experiences between participants around a shared purpose or interest. As such, collective learning should 'enable new shared learning that leads to changes in practice' (Araujo et al., 2020: 13). This MEL process considers both types of collective learning.

Correspondingly, building flexibility into a project's design and engaging in processes of MEL to track long-term changes in practice are critical factors for evaluation.

- Key aspects of collaboration and mutual learning in consortia provide normative criteria for evaluating the KE4CAP project (Koelle et al., 2017). For instance, the practice of sharing real-life stories of successes and challenges is useful in building trust, addressing diversity, as well as inciting mechanisms for individual or group reflection. This mutual learning process reiterates the importance of collective learning in projects alike KE4CAP but also, requires a shared commitment among participants to learn from and with each other to enhance adaptive capacity (Hagemeier-Klose et al., 2014), build socio-ecological resilience (Keys et al., 2014), and to cultivate social cohesion for knowledge co-production (Chaffin et al., 2016).

- The creation of a safe space to host and support open discussions between participants was emphasised in a report from an ECCA workshop in 2017, which focused on 'learning from failures in communication' (Young et al., 2017). A safe space for discussion is crucial facilitating collective learning so that participants feel comfortable to speak openly about their individual experiences related to their work. This is a central aspect to the evaluation of the KE4CAP project because the added value of participants sharing their individual challenges not only informs and empowers researchers and practitioners involved in KE4CAP, but the provision of a safe space to have open discussions is also vital for sustaining practices of knowledge exchange.

Concepts drawn from literature which helped frame the evaluation and initial framework include:

- 'Knowledge capital' (Wenger et al., 2011). The applied value of a project can be assessed by specific changes in practice it has led to (Wenger et al., 2011). As such, changes in practice in relation to the function, operation and management of individual CAPs exemplify the applied value of the KE4CAP project.

- 'Transformative learning' theory describes the process in which adult learners interpret and reinterpret new information, evaluate their past ideas, and engage in critical reflection (Mezirow, 2003). Transformative learning suggests that the impact of a knowledge exchange project alike KE4CAP, can be analysed through the lens of participants and their individual learning experiences.

Table 3 identifies main concepts and additional proxy indicators that emerged from literature. The list of selected references is not exhaustive; albeit each of the selected literature pertained to a specific aspect of measuring KE4CAP's impact, which was critical for framing the evaluation.

Table 3: Main concepts drawn from various literature.

Main concept	Selected references
The applied value of a project can be assessed by specific **changes in practice**, such as the use of knowledge, tools, or social connections – see Table 2 for list of proxy indicators. Participants' may be required to reflect on their learning to discern any change in practice. Correspondingly, changes in practice in relation to the function, operation, scope, and management of individual CAPs exemplify the realised impacts of the KE4CAP project.	Wenger et al. 2011
An emerging area of practice in climate adaptation research is **communication**. This is because adaptation action in a diverse and dynamic context requires open communication about 'what does not work in a way that supports learning' (10). As such, **learning from failures** can be both, empowering and informative for researchers and practitioners. The creation of safe spaces to support open discussions and shared learning opportunities between different stakeholders/participants is also important for advancing adaptation action. Thus, KE4CAP's capability to facilitate open discussions, where network members feel comfortable to share challenges, is a critical point of evaluation.	Young et al. 2017
Effective collaboration and learning in consortia require individuals and organisations to work together across disciplinary, geographical, institutional, and cultural boundaries. The pertinence of sharing real-life stories of successes and challenges is reiterated. Moreover, principles of good practice provided normative criteria for evaluation. For example, co-production of knowledge can help to build trust, address diversity, as well as establish mechanisms for individual or group reflection. These aspects of collaboration and mutual learning are pertinent to the evaluation of KE4CAP's impact.	Koelle et al. 2017
The facilitation of co-learning processes is critical for strengthening capacity and collective adaptation action. Insights from the Future Climate for Africa (FCFA) programme highlighted the importance of promoting collective learning and mobilising climate knowledge. Useful suggestions also considered building flexibility into the programme/project design and engaging in MEL practices to track long-term changes. Thus, the design structure and governance of KE4CAP's activities influence the effectiveness of knowledge exchange between CAPs.	Araujo et al. 2020
Transformative learning theory was conceptualised by Jack Mezirow and is defined as a way adult learners interpret and reinterpret new information, evaluate their past ideas, and engage in critical reflection. Transformative learning considers and distinguishes between instrumental learning and communicative learning. Instrumental learning involves task-oriented problem solving, whereas communicative learning refers to 'understanding what someone means when they are communicating with you,' as well as being able to discern one's assumptions, intentions, and qualifications (2003: 59). In the field of climate change adaptation, creating the conditions for, and supporting practices of transformative learning suggest that practitioners and researchers would be more able to develop, inform and support adaptation action.	Mezirow, 2003

Development of initial impact analysis framework

The initial impact analysis framework took insights from the literature review and scoping to produce a framework for evaluating KE4CAP (Table 4). This framework informed the development of the semi-structured interview questions (Table 5). This initial framework was then revisited and updated in response to the breadth and depth of information arising from the interviews. The final framework is presented in the main text in Investigating KE4CAP's impact.

Table 4: Impact analysis framework

Impact value	Proxy indicators to assess impact of KE4CAP
Community of practice	Inspiration and examples of good practices
	Networking
	Stocktaking (monitoring, reporting and evaluation)
	Discussion and learning (learning from failures, sharing challenges, solutions etc.)
	Direct assistance (content, functionality and user-friendliness)
	Value demonstration
	Collaboration
Change in practice	Implementation of advice/solutions/insights (use of tools and documents to inform practice)
	Use of social connections (collaborative arrangements; leveraging connections; value of connections)
	Transferring learning practices (using communities or other peer-to-peer processes and tools for learning in other contexts)
	Innovation in practice (new ways of doing things; new concepts/ language)
Activities/ interaction	Level of participation
	Level and quality of engagement
	Level of trust

Table 5: Interview questions

Main question	Follow-up questions	Link to indicators
Have you found KE4CAP helpful? **If yes, how has KE4CAP helped?**	• Why have you attended KE4CAP events? What were you expecting/wanting to achieve at these events? • What did you find worked well during the events – what was most useful? • Do you feel comfortable discussing challenges you are experiencing and areas you would like to improve during KE4CAP events? • Did you feel comfortable contributing to discussions? • Were there any factors that inhibited you from contributing during KE4CAP events? (e.g., language/ formality/ the presence of more established CAPs acting as a barrier?)	Networking Discussion and learning (potential power dynamics) Level of trust
	• Have you had direct contact with other platforms as a result of KE4CAP? If yes, has this been helpful? • As a result of KE4CAP have you identified other platforms that you would like to work with/ see your CAP reaching out to in the future?	Inspiration/ examples Implementation of advice/solutions Innovation in practice
	• Are there any tools, practices and/or ideas that were identified during KE4CAP events that your platform found useful? • Have they been adopted/integrated onto your CAP? • Did you pass on/talk about this new tool/idea with other colleagues/ platforms?	Networking Collaborating Value of connections
Additional questions for project partners	• What has your work with KE4CAP enabled you to do? • Has working with KE4CAP helped build your capacity in any way? If yes, how? • What benefits do you see in continuing to work in partnership with KE4CAP?	
Is there anything of KE4CAP that isn't working for you? **Is there anything missing from KE4CAP?**	• With respect to how KE4CAP is operating, what do you find challenging, what do we need to improve? • Are there specific changes you would like to see (e.g., including other stakeholders, or focusing on different types of platforms)? • Do you see further benefits from continuing such a community of practice? And if so, what would you like it to achieve? (e.g., new/different activities, knowledge products, collaborative research (working groups) etc.) • Is there anything that you have seen elsewhere that would improve KE4CAP?	Networking Use of social connections Discussion and learning (Future) innovation in practice Community aspirations

KE4CAP

Knowledge Exchange between
Climate Adaptation Platforms

Stepping up knowledge exchange between Climate Adaptation Platforms

Impacts, learning and ways forward

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