Practical Guide to
Participatory Scenario Planning

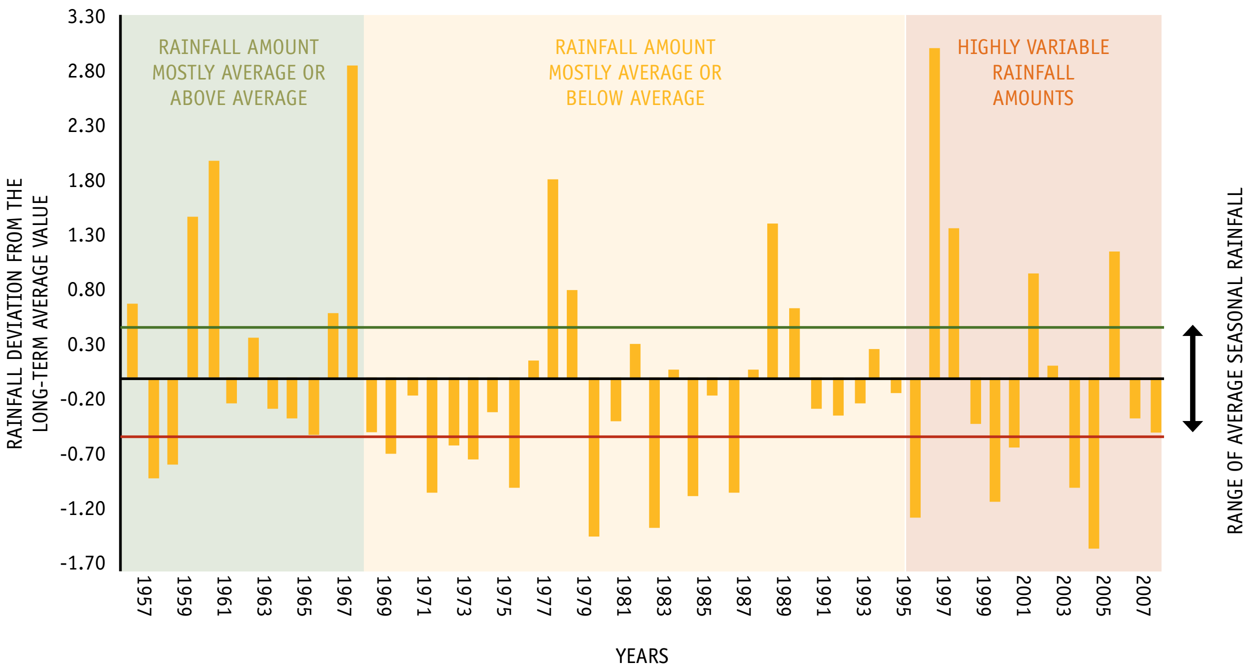
Elements of Participatory Scenario Planning

Female watermelon farmer carrying water in Northern Ghana. Credit: Sebastiaan Soeters /2017

3.1 The challenge PSP is designed to overcome

There has always been variability in rainfall amounts and patterns. As revealed by analysis of historical data, variability means there can be large differences in rainfall between two subsequent seasons or years (see an example in Figure 8). Climatic variability is even more pronounced in recent times, and may increase into the future as the climate continues to change.

Figure 8: *Data from 1957 to 2008 in Garissa County, Kenya, shows observed large differences in annual rainfall amounts from one year to the next (i.e. high level of rainfall variability), especially in the recent ten years. Data source: Global Historical Climatology Network* https://www.ncdc.noaa.gov/ghcnm/v2.php



In rain-fed systems, resource endowments and productivity (crops, pasture, water, etc) will be available only at a given point in time – a time period that will change from year to year following rainfall patterns, with sharp differences even across short distances. The productive potential of these resources, as well as their efficient and sustainable use, depends largely, or even entirely, on people's ability to strategically manage the resources and make real-time adjustments (IIED 2015). This means that variability in rainfall has a significant effect on resource availability and on productivity. Valuing and adapting to climate and broader variability in the future, and the risks and uncertainty that poses, is therefore a key part of enhancing the resilience of livelihoods and development in rain-fed systems.

It is increasingly recognised that scientific climate information and local knowledge are essential resources for adaptation, managing climate risk and building resilience to the climate (Dazé, A, 2015). However, access to information is limited, and if available, it is often not useful for decision making by all who need it. Users need information, but even more critical is their need for a climate information service that makes information:

1. **Accessible** – While different types of climate information may be available, potential users of the information are not able to access the information due to the presentation formats and channels used in dissemination. Further, focus on dissemination rather than communication of information falls short on ensuring differential access to the information through use of communication channels that target users based on gender, livelihood types, level of operation (e.g. county, district, community, village, etc), among other factors. Participatory approaches are essential to identify the best combinations of communication channels and information content for a given context (Tall, Hansen, Jay, Campbell, Kinyangi, & Aggarwal, 2014).

2. **Relevant and actionable** – Consideration must be given to the decision-making context, taking into account the right spatial scale and timing of the information needed. It is critical to go a step further and translate climate information into a form which can be understood so that it is useful for decision making and planning. Translation works best when it involves climate-affected communities, intermediaries or knowledge brokers, and climate information providers, through dialogue between different stakeholders towards translating climate information into useful advisories (Ambani & Percy, 2014) (Tall, Hansen, Jay, Campbell, Kinyangi, & Aggarwal, 2014).
3. **Useful for diverse and changing needs** – Changes in decision-making contexts – for example, a shift from purely pastoral to agro-pastoral livelihoods – creates a demand for useful climate information to inform water management for crops, as well as information for livestock management. Climate services must engage users in two-way communication and feedback so that users and knowledge brokers continually inform production of new and improved climate products and services to meet various needs, as well as ensure that users can access and use new and existing climate information.
4. **Reliable and of good quality** – This makes use of available data and information to enhance the accuracy of information presented and interpreted (Dinku T. , et al., 2016). It also means explaining the uncertainty in future climate in a manner that enables stakeholders' understanding of the information, and their trust and confidence to use it in taking informed action.

3.2 What is Participatory Scenario Planning using seasonal forecasts?

In recognition of these needs, the Participatory Scenario Planning (PSP) approach was developed by the Adaptation Learning Programme (ALP) as a climate services approach to enhance development of useful climate information and its delivery to support seasonal climate-informed decision making.

3.2.1 PSP purpose

PSP is a multi-stakeholder approach designed to enable access to, and understanding and collective interpretation of, seasonal climate forecasts and associated uncertainty into locally relevant information that is useful for decision making and planning. PSP seeks to create an approach for regular dialogue and engagement of all actors, including users, to co-develop and deliver climate services that are responsive to user needs at seasonal timescale. In this way, PSP contributes to building actors' adaptive capacity and resilience to changing risks, uncertainties and opportunities posed by climate variability and change.

Pastoralist woman selling milk in Garissa. Tamara Plush/CARE, 2011.

3.2.2 PSP objectives

The PSP approach aims to facilitate a regular multi-stakeholder forum for:

1. continuous access to and collective interpretation of seasonal climate forecasts and associated uncertainty, so as to co-produce information that is relevant to local decision making, planning and actions
2. two-way climate communication that respects, reviews and combines knowledge from local actors, including different communities, and sectoral service providers, with advances in climate science
3. developing climate-informed plans, strategies and actions to enhance climate resilience in all livelihoods, sectors, and development processes
4. iterative learning and dialogue to continuously co-develop climate information services that are responsive to users' changing decision-making contexts
5. creating links between actors and advising on their collaboration and coordination to deliver user-based climate services.

3.2.3 PSP outcomes

PSP supports the design and delivery of a seasonal climate information service that is driven by and inclusive of users and that contributes to building climate resilience and people's adaptive capacity. This is demonstrated through:

1. more informed, anticipatory, precautionary and flexible decisions to manage climate uncertainty, risks and opportunities
2. integration and implementation of effective climate risk management in all livelihood, sectoral and development planning processes
3. enhanced climate resilience of livelihoods and development, through adaptation to a range of future seasonal climatic possibilities.

3.2.4 PSP principles

Work towards achieving the purpose, objectives and outcomes of PSP is guided by seven principles (Ambani and Percy, 2012):

1. **Principle 1: Involve all relevant stakeholders**, recognising their roles and utilising their specific knowledge and capacities to enable a participatory process that is responsive to user needs.
2. **Principle 2: Conduct PSP workshops as soon as seasonal forecasts are available** from national meteorological services.
3. **Principle 3: Multi-stakeholder interaction, dialogue and co-production** of information with scientists, communities and other stakeholders is vital for designing and developing relevant and user-based climate information services.
4. **Principle 4: Communication, understanding and interpreting climate probabilities and uncertainty** is essential for flexibility in decision making on adaptation and resilience.
5. **Principle 5: Apply user experiences and results from previous seasons** for reflection and iterative learning and to inform discussions during PSP workshops, development of advisories and plans for the coming season.
6. **Principle 6: Advisories should be presented as options**, rather than instructions, to encourage actors to make their own decisions and take actions relevant to their local contexts.
7. **Principle 7: Communication of advisories should be inclusive**, reaching all genders and groups, local governments, organisations, private sector and other users within the chosen geographical level. Timely communication of advisories is critical to empower stakeholders to take appropriate action.

A fruit and vegetable market in Muranga County, Kenya. Credit: Francesco Fionalla/IRI

3.3 Why a participatory, multi-stakeholder approach to climate services?

The PSP approach is grounded in multi-stakeholder engagement, in recognition that:

1. **Design and delivery of a relevant service requires the involvement of all stakeholders** – This is because decision support is most effective when it is sensitive and responsive to dynamics in the context and the diversity of decision types, decision processes, and constituencies (Intergovernmental Panel on Climate Change (IPCC, 2014). Further, diverse interests, circumstances, social-cultural contexts, expectations and changing risk perceptions influence the type of climate information needed for decision making. For a climate service to be relevant to changing contexts and to meet the diversity of needs over time, it must create feedback loops that inform its continuous readjustment. This is a challenge that requires the support of multiple stakeholders applying their capacities and roles to ensure the service continuously evolves to meet specific contexts and needs.
2. **Building trust and confidence in climate information is a dialogue process** – This involves interaction between scientists, local forecasters, intermediaries and users to understand and combine different forms and sources of information and knowledge, and highlight its relevance for stakeholders. It also involves generating evidence and reflecting on it together to understand how different users are applying climate information in decision making and the value of this. This requires building stakeholder networks and relationship, a process that requires persistence of effort and a long timeframe (Ambani & Percy, 2014). Further, continuously involving users in co-production and communication of necessary climate information, and incorporating their feedback on the information's usefulness to improve the service, increases user confidence in taking action on the information.
3. **Moving from accessing to using climate information is enabled by responsive support services** – Adaptation planning and implementation can be enhanced through complementary action across levels – from individuals to governments (Intergovernmental Panel on Climate Change (IPCC, 2014). Dialogue between communities, sectoral departments and the private sector, among other stakeholders, leads to sharing knowledge of possible adaptation measures based on a seasonal forecast and developing mutually supportive plans and actions. This then ensures that as users access climate information and advisories to inform their decisions, various services will be made aware of the possible demands for support. For example, in response to a possible increase in livestock disease or the need for a particular crop variety due to probable high rainfall amounts in a season, input suppliers use the forecast and advisories to stock the necessary medicines and seed varieties, while the relevant sector departments provide the required extension service. Support services can also coordinate actions in response to a forecast to avoid duplication of effort and ensure efficiency and cost effectiveness in service provision.

3.4 Why scenario planning?

3.4.1 The future is uncertain

'Uncertainty' is an integral part of the future simply because it is yet to happen. Stakeholders constantly face change and uncertainties in all aspects of life that relate to future situations. This is true when looking at economics (e.g. availability of markets, fluctuation in commodity prices or exchange rates), politics, demographics, jobs and other areas of life where 'risks' are accepted on a daily basis. With all the constant changes in every aspect of life – including stakeholders' aspirations, capacities and needs – and the interaction between all these changes, increasing uncertainty has become the 'new normal'. Yet these uncertainties collectively form an environment in which stakeholders must live and continually adjust in order to remain resilient and on a positive development path.

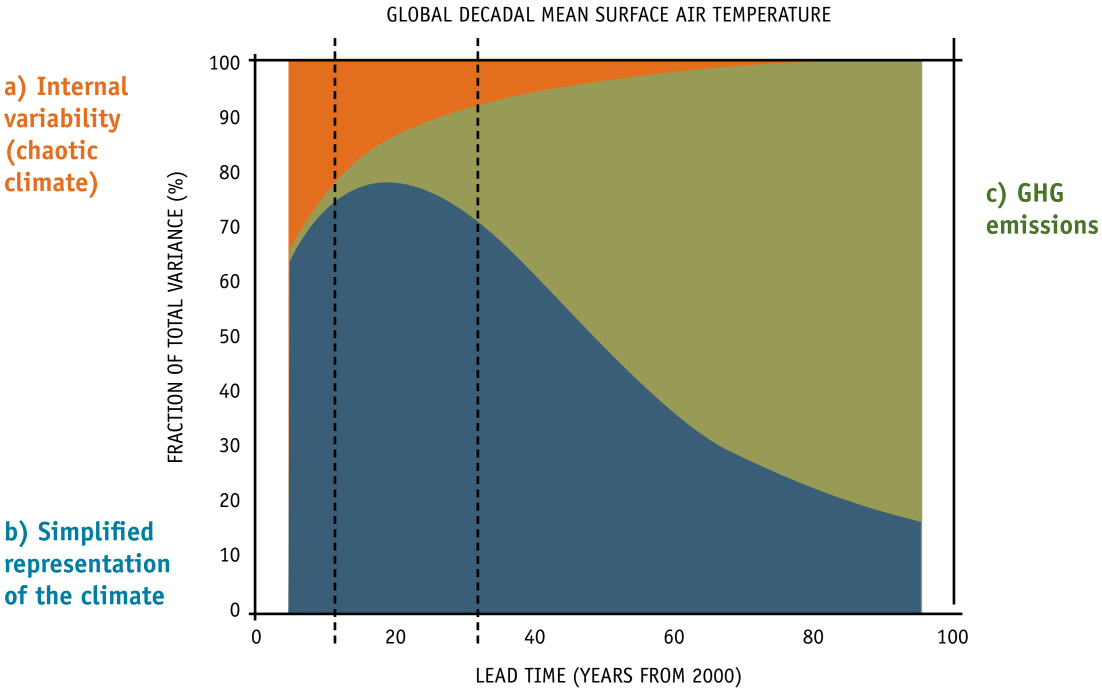
'Uncertainty' is equally inherent in future climate information for several reasons. First, the science behind climate processes is not completely understood because climate is naturally variable and chaotic, as observed and experienced from erratic weather patterns and the occurrence of more extreme events in the recent past. In an attempt to understand and predict the behaviour of the chaotic and complex climate system, scientists develop simplified representations of the climate system. These representations often cover large areas and may miss out on smaller-scale events that exert some influence on the climate over small as well as larger areas of the world. Second, over the long term, future emissions of greenhouse gases (GHGs) – for example, carbon dioxide from burning petroleum, methane gas released by livestock, and rice paddies – and the resultant response of the climate system to these emissions, bring another form of uncertainty. This is because the future level of GHG emission is not known due to uncertainty in future population sizes, technology development and uptake, economic development, and emission mitigation policies and strategies, among other factors. Third, a combination of incomplete (but improving) scientific understanding of the climate, the chaotic and complex climate system, simplified representations of the climate system, unknown future levels of GHG emissions and imprecise information on the climate system's response to (unknown) levels of GHG emissions result in the imperfect predictability of future climate (see Table 3) and persistent uncertainty in future climate over different timescales (see Figure 9).

Conversely, (Osbahr & Viner, 2006) argue that climate science may be only partially successful in reducing these uncertainties in the next ten years. Their recommendation is that efforts should be directed to improving the communication of uncertainty, and how uncertainty can be better addressed in the future without causing decision paralysis. PSP acts on this recommendation through using scenarios to unpack uncertainty in the climate and broader contexts, and transform it into information that will be useful for local decision making.

Table 3. Types of forecasting timescales and related predictability. Adapted from Tall et al., 2014.

TYPE OF FORECAST	TIMESCALE	SOURCE OF PREDICTABILITY	TREATMENT OF UNCERTAINTY IN THE FORECAST	EXAMPLE OF FORECAST
Weather	1 to 10 days	Data on observed past weather	Deterministic: forecasts of a weather event, of a specific magnitude, at a specific time and place	Daily rainfall or temperature forecast
Monthly and seasonal climate forecast	1 to 3 months	Sea surface temperatures	Probabilistic: forecasts of the probability of a climate event of a certain (or range of) magnitudes that may occur in a specific region, in a particular time period	Total amount of rainfall in a season
Decadal forecast	1 to 10 years	Current state of the climate and multi-year variability of sea surface temperatures	Probabilistic, scenarios	Temperature difference relative to a certain time period in the past
Climate change	Beyond 2 decades	GHG emissions from human activities, natural changes in atmospheric composition	Scenarios: projections of plausible future climate statistics with unknown uncertainty	Change in seasonal climate patterns, change in intensity and frequency of extreme climate events

Figure 9: *There is uncertainty in scientific climate information across different timescales (the horizontal axis in this figure) due to influence from different sources of uncertainty. Climate forecasts at seasonal to ten-year (decadal) timescales have uncertainty mostly due to the a) naturally chaotic nature of the climate, which leads to an incomplete understanding of it and b) simplified representations of the complex climate system during forecasting. In timescales beyond ten years, the influence of uncertainty due to c) GHG emissions becomes most prominent.*



3.4.2 Climate resilience means managing uncertainty and risk

For agriculture and other climate-sensitive sectors to remain sustainable and resilient, any information relating to uncertain futures is more useful than no information at all. Rather than dismissing climate information, especially from science, as not useful because it does not say exactly what will happen in the future, it makes more sense to get out of it as much information as is available. Consideration, understanding and interpretation of uncertainty aids the development of proactive plans and actions to contend with a range of future possibilities so that shocks do not come as surprises and risks can be anticipated, reduced, managed or turned into opportunities. Just as private entrepreneurs thrive on analysing risk and taking chances, embracing and managing uncertainty in future climate as an ongoing fact of life can be a powerful adaptation tool."Uncertainty is not a problem to be solved; it can be understood, managed and used to inform adaptation decisions, early warning and risk management." (Ambani and Percy, 2014)

3.4.3 Managing uncertainty and risk using scenarios

Scenarios developed using the PSP approach enable the interpretation and management of uncertainty, in recognition of the complexity in the climate system and its limited predictability, by creating a picture of possible climatic futures and resulting impacts. For example, uncertainty in seasonal climate forecasts from meteorological services is typically presented in terms of probabilities, with a percentage likelihood of having rainfall that is below average, average and above average. In order to develop future scenarios of climatic impacts on livelihoods, economic sectors, natural resources and disaster risks, a probabilistic forecast is interpreted by combining local knowledge and experience on climate risks and impacts with technical expertise. A range of proactive options are developed from the scenarios, so that risks can be managed – such as by spreading the risks across multiple strategies – and potential opportunities can be identified and capitalised.

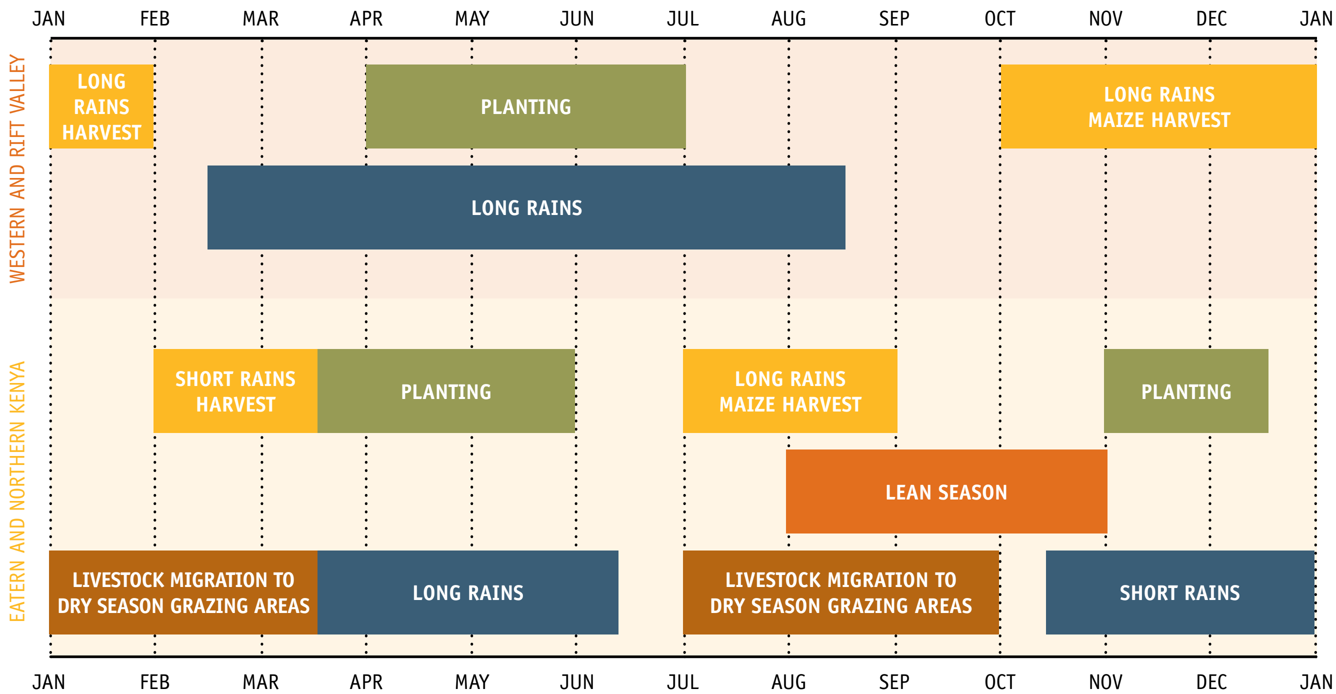
For example, based on the spread of probabilities, scenarios can enable:

- anticipation and planning for strategies that integrate investment and risk management
- crop farmers to make better decisions on which mixture of crops to plant (e.g. early maturing and drought-tolerant varieties), when to plant them and how much of each to plant to avoid total crop loss due to climate-related hazards
- pastoralists and livestock keepers to engage in risk management livelihood and income-generating strategies such as rearing different types of livestock, mixing improved and local breeds, integrating management of water and pasture/ grazing resources, integrating economic trees that also provide protection against strong winds, and engaging in other non-farm income-generating activities in addition to livestock rearing. This prompts livelihood diversification and environmental management as effective climate adaptation strategies
- agro-dealers to invest in stocking different volumes of certain inputs and products in anticipation of market demands in relation to the coming season
- decision making and action on rainwater management such as through rainwater harvesting, micro-irrigation, actual agronomy (e.g. conservation agriculture or ridging, etc)
- government service providers in the different sectors to tailor plans and actions to reflect different potential needs in the season.

3.5 Why does PSP focus on the seasonal timescale?

In a rain-fed system, activities in agriculture, water, natural resource management and other climate-sensitive sectors – and the livelihoods and development that depend on them – often follow seasonal rainfall patterns (see the seasonal calendar in Figure 10). This means that decisions and plans that need to be made for those activities, and the required support services, will also occur on a seasonal timescale.

Figure 10: *A typical agricultural seasonal calendar for Kenya; the activities in the calendar follow the two rainfall seasons in the country. Retrieved from FEWSNET* http://www.fews.net/east-africa/kenya/seasonal-calendar/december-2013



Case Study 3

FORWARD-LOOKING PLANNING FOR EARLY WARNING AND EARLY ACTION THROUGH SEASONAL SCENARIOS

During the PSP workshop for the March to May 2013 rainy season in Garissa County, Kenya, the forecast showed that normal to below normal rainfall was most probable. In addition to discussing what was most probable, participating stakeholders also developed an impacts scenario and action plan in the event that above normal rains occurred.

As the season progressed, part of the county experienced flooding similar to that caused by above normal rainfall, although the flooding was actually due to an overflow of the River Tana as a result of heavy rainfall in counties upstream. Based on information on possible actions in case the above normal rainfall scenario occurred in the area, officers from the Department of Agriculture monitored water levels in the River Tana. According to Abdullahi Gedi, an elderly man from Nanighi community, it was very useful to have prior knowledge of actions to be taken if above normal rainfall occurred. When the area chief received a phone call about the impending floods along the river, he informed the community about it. Community members did not ignore the early warning as they used to do previously. They quickly acted on the information by moving their irrigation pump sets away from the riverbanks; those that could not be moved were tied to large trees. Those living close to the riverbanks relocated to higher grounds, while some crops were harvested and livestock were moved to the wet season grazing zones.

Ahmed Rage from Nanighi in Garissa, Kenya at his flooded farm. Credit: Stanley Mutuma/CARE Kenya, 2013

Using scenario development to unpack uncertainty in seasonal forecasts and generate locally relevant climate information is building actors' capacity for flexible and forward-looking decision making and proactive planning. Flexible and forward-looking decision making and planning strengthens the integration of agricultural livelihood strategies with preparedness, monitoring, early warning and early action to manage climate risks. This underscores the realisation that not one strategy, actor or sector can work alone in addressing climate challenges: a combination of strategies as well as collaboration and coordination among stakeholders are imperative to building adaptive capacity and resilience.

The types of climate hazards, their intensity and the resultant risks are also highly dependent on the seasonal climate. For example, extreme climate events such as rainstorms that cause flooding are more likely to be experienced in a rainfall season than in a dry season. Consequently, climate impacts will be determined by stakeholder vulnerabilities and capacities, as well as by the actions of different stakeholders to manage climate risks and take advantage of opportunities within a season.

Learning to manage climate risks and uncertainties – especially through collaborative and participatory approaches that bring together all stakeholders, strengthen communication systems for anticipating and responding to climate risks, and increase flexibility in adaptation and risk management options (such as is created by PSP) – provides potential pathways for strengthening stakeholders' adaptive capacities to manage climate change in the long term (Niang, et al., 2014).

3.6 Who is involved in PSP?

Figure 11. *An example of types of stakeholders who are usually involved in PSP. Note that this list is not exhaustive and is subject to change based on context.*

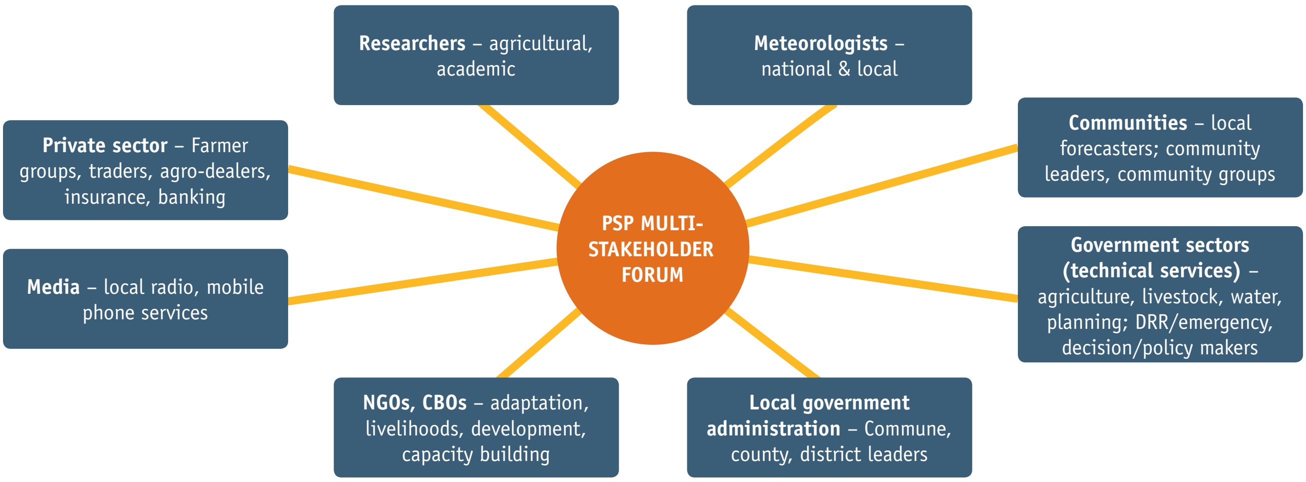


Figure 11 illustrates the different key stakeholders typically involved in the PSP process. The stakeholders are referred to differently depending on their roles and involvement in the PSP process. For clarity, the guide uses the following naming convention: stakeholders, actors and partners, as defined in the paragraphs below.

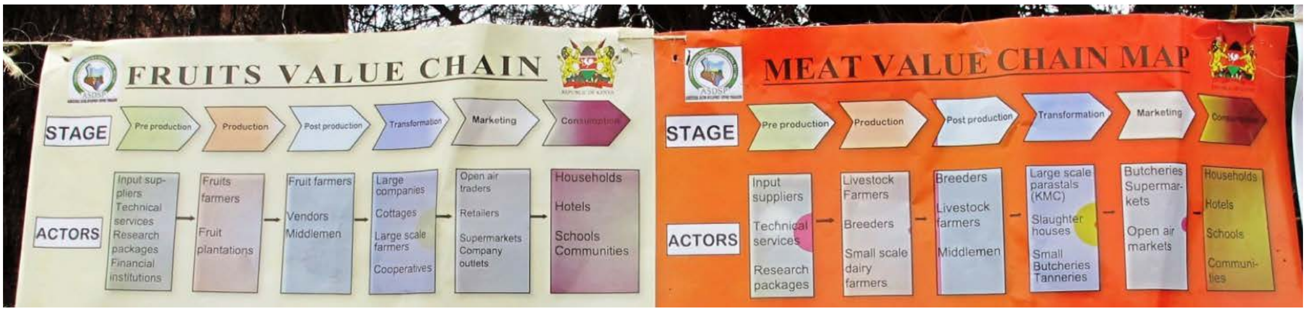
'Stakeholders' refer to everyone involved in PSP, that is, both those who support implementation of the PSP process – such as meteorological and agricultural services – and those who need to access and use the climate information coming out of the PSP process. Collaboration and coordination between all these stakeholders is important to achieving the PSP purpose and objectives.

'Actors' are a subset of stakeholders composed of those who need to use or act on climate information. For example, actors may refer to groups involved in a specific stage of the agricultural value chain, for example:

- pre-production actors such as input suppliers, and research, technical, financial and agricultural extension services
- production actors such as crop farmers, livestock keepers and farmer groups
- post-production and transformation actors such as vendors of agricultural produce, agro-processing companies, retailers and marketers
- consumers such as households and communities.

Actor groups may also refer to government institutions, projects and programmes, NGOs and CBOs, whose work is not limited to a specific stage of agricultural production but who work on issues that cut across more than one climate-sensitive sector and who possess the technical, operational, policy and funding support needed in PSP. These actors include those working in adaptation, DRR, drought management, resilient and sustainable development, climate-smart agriculture, water resources, livelihoods, poverty reduction, social inclusion, etc.

Figure 12. *Examples of agricultural value chain actors who might be involved in the PSP process*



'Partners' are a second subset of stakeholders, including institutions, organisations, projects and programmes supporting implementation of the PSP process. There are three kinds of partners, defined by their role and contribution to the PSP process (see more details in PSP process Step 1 – Initiating and designing the PSP process):

I. '**Initiating partners**' set up discussions on PSP in an area to create wider stakeholder demand and to mobilise motivation and buy-in for implementing the PSP approach to manage climate risks, uncertainties and opportunities in all climate-sensitive sectors. An initiating partner could be an organisation, institution, project, programme or individual (also referred to as PSP 'champions') who already understands and appreciates the value of PSP in leveraging climate information to manage climate risks, uncertainties and opportunities and in providing climate information services that contribute to building stakeholders' adaptive capacity and resilience. This understanding may have come from, for example:

- **a)** interaction with others who have experience of implementing PSP at capacity building and learning events – e.g. at the East and Southern Africa Learning Event on Community-Based Adaptation (CBA) and Resilience, and at the West Africa Learning Event on CBA, etc (see Works Referenced at the end of the document)
- **b)** presentations and discussions during conferences and workshops – e.g. at the 9th International Conference on Community-Based Adaptation
- **c)** publications emphasising the value of PSP, for example the PSP brief. (see Works Referenced at the end of the document)

This guide aims to build such understanding – hopefully turning readers into initiators of the PSP process.

Initiating partners also appreciate the potential of PSP to multiply the impact of their work and that of others (e.g. in projects/programmes on adaptation, DRR, early warning/early action, resilience, climate-smart agriculture, etc). They therefore take the initiative to help others realise the value of adopting and implementing the PSP approach as part of their work.

After PSP has been initiated in an area and there is stakeholder buy-in and adoption of the approach, initiating partners then become facilitating partners.

II. '**Facilitating partners**' or simply '**facilitators**' are those implementing all the steps in the PSP process (see Chapters 4 to 8). They are play the role of climate knowledge brokers through bringing together and coordinating all the stakeholders involved in PSP. Often, facilitating partners also play the role of intermediaries (see definition in Box 2); as such, they become part of those involved in providing climate information services in a local area. Examples of PSP facilitating partners in various countries are presented in Table 4.

Table 4. Partners in five countries who have been involved in brokering linkages, and convening and facilitating the PSP process

KENYA	GHANA	NIGER	ETHIOPIA	MALAWI
3. Agriculture Sector Development Support Programme (ASDSP) 4. Kenya Meteorological Services Department (KMD) 5. Adaptation Learning Programme (ALP) – CARE International	1. District Assembly 2. Ministry of Food and Agriculture 3. Ghana Meteorological Agency (GMET) 4. Presbyterian Agricultural Station 5. Rural Development and Empowerment	1. CARE International – ALP, Building Resilience and Adaptation to Climate Extremes and Disasters (BRACED), Gender, Agriculture and Climate Risk Management project (GARIC) 2. Niger Meteorological Services (DMN) 3. AGRHYMET Regional Centre	1. Pastoral Resilience Improvement & Market Expansion (PRIME) project 2. Zonal- and district-level Disaster Preparedness and Prevention Office (DPPO) 3. National Meteorological Authorities	1. Civil Society Network on Climate Change 2. Enhancing Community Resilience Project 3. Churches Action in Relief and Development 4. Department of Climate Change and Meteorological Services 5. Developing Innovative Solutions with Communities to Overcome Vulnerability through Enhanced Resilience (DISCOVER)

'Funding partners' are those who provide funding and administrative support for the PSP process. These include county/district governments, development organisations working in different sectors, projects and programmes, etc.

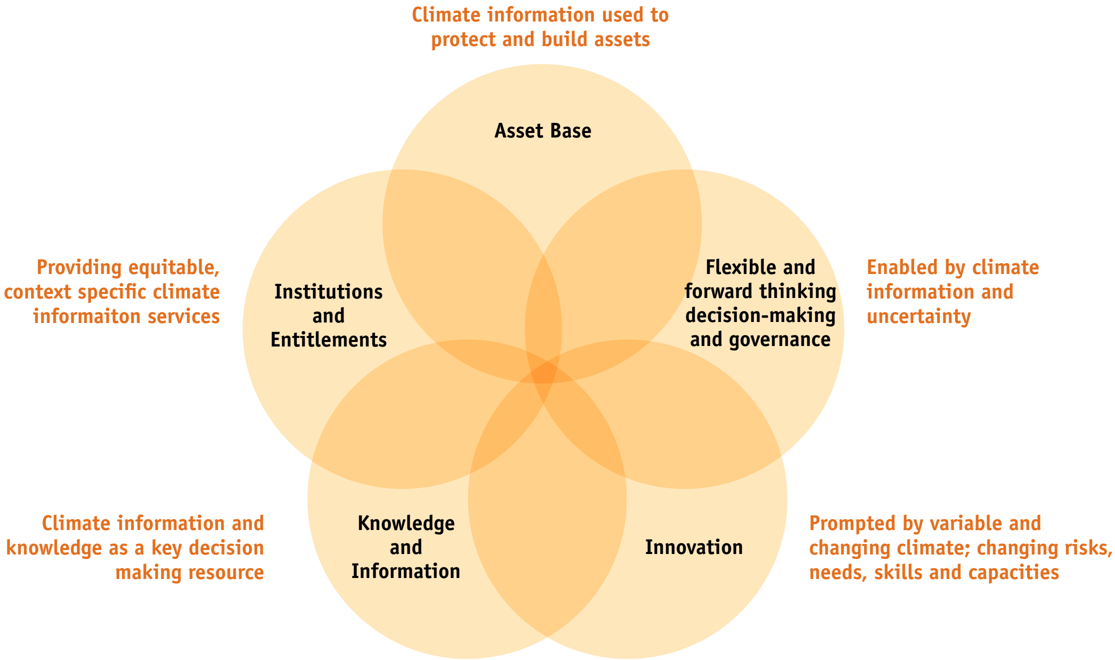
As will be realised, some partners may play more than one role in the PSP process; this needs to be defined and agreed by all partners (see details in Step 1, Chapter 4).

3.7 PSP is about building adaptive capacity and enhancing resilience

A commonly accepted definition of adaptive capacity – taken from the IPCC – is: the ability of systems, institutions, humans and other organisms to adjust (due to climate change, including climate variability and extremes) to potential damage, to take advantage of opportunities or to respond to consequences (IPCC, 2013). In practice, research by the Africa Climate Change Resilience Alliance (ACCRA) reveals that adaptive capacity refers to the potential of individuals and societies to respond to change, so it is not currently possible to measure it directly as defined by the IPCC. To make this definition applicable in practice, ACCRA focuses on five dimensions that are considered to contribute to adaptive capacity: 1) the asset base (including physical and non-physical assets); 2) institutions and entitlements; 3) knowledge and information; 4) innovation; and 5) flexible forward-looking decision making and governance (Levine, Ludi, & Jones, 2011).

PSP goes further to actualise the five dimensions of local adaptive capacity in practice (see Figure 13), starting with a heavy focus on climate information and knowledge that feeds into the other four dimensions; this is explained in the following paragraphs.

Figure 13. *PSP is actively and regularly contributing to building local adaptive capacity (Source: Levine, Ludi & Jones 2011)*



Turning climate information into knowledge: It is not enough for stakeholders to 'access' seasonal climate information; even more critical is turning that information into contextualised knowledge that prompts action. PSP creates space for actors to question seasonal forecasts, understand the uncertainty in the forecasts, analyse and combine forecasts from different sources, and collectively apply local and technical knowledge to co-generate information and knowledge that is more useful for informed decision-making, planning and action in different local contexts.

Learning to read a rain gauge in Garissa County, Kenya. Jospeh Ndiritu/CARE Kenya/2011

An agro-pastoralist in Garissa, Kenya, reading climate advisories. Credit: Eric Aduma/CARE Kenya, 2014.

Forward-looking and flexible decision making and planning: Seasonal climate information generated from PSP has a strong emphasis on understanding uncertainty in seasonal climate forecasts, through development of scenarios. Scenarios explore a range of possibilities in future seasonal climate, prompting actors to think about the range of hazards, risks, opportunities and impacts that may occur in the season in a given area. Such thinking puts actors on a path of forward-looking decision making and planning for strategies and actions that manage risks and also capitalise on potential opportunities. Further, as there is consideration of different possible futures, actors' capacity is built to: 1) sense change in weather within the season and resultant risks and impacts; 2) conceptualise responses to that change; and 3) reconfigure resources and strategies to execute actions in response to the change (see case study 3). In essence, scenarios enable actors to build proactive responsiveness and flexibility into decisions, plans and actions. Scenarios also encourage organisations and institutions to build flexibility into in their support services and funding so they can scale up or scale down certain actions, depending on how a season progresses. (IFRC; OXFAM; Save the Children; WFP; FAO)

Local innovation: Consideration of options generated from different scenarios fosters actors' capacity for local innovation, through experimenting with new strategies and modifying existing strategies using information, learning and links (such as with research institutions) gained during a PSP forum. Innovation is especially vital to dealing with the changing and uncertain climate and realities in different local contexts, which necessitate the continuous development of new and context-specific solutions, even on a seasonal basis.

Assets: Use of seasonal climate information for forward-looking decision making and planning as well as for innovation enables actors to protect their assets (DFID, 1999) (especially natural assets such as water, land and forests; physical assets such as buildings, tools and equipment for production; and financial capital in the form of savings and credit, seeds, livestock, etc) through early warning and early action to manage climate risks, opportunities and impacts. The information can help local actors make climate-smart investments that build their assets, through taking advantage of opportunities for income generation and for sustainable and resilient productivity and development.

Institutions, entitlements and governance: PSP forums create space for interaction on a seasonal basis among multiple stakeholders who would normally not sit together to plan. The interaction empowers all actors – including vulnerable stakeholders – to demand, access and act on climate information that is relevant to their needs and aspirations. As a consequence, meteorological services, local governments, institutions, organisations and private sector services are persuaded to be more responsive to the specific climate information needs and services of actors in a local area. The regular interaction and dialogue builds stakeholder relationships to co-develop and deliver climate information services that are responsive to users' needs. This also promotes good governance in climate information services through creating accountability mechanisms between service providers and local actors. The result is climate information services that are equitable and effective in building local adaptive capacity and resilience to the climate now and in the long term.

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CARE Danmark

Jemtelandsgade 1
2300 Copenhagen S
+45 35 200 100

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