
SEVENTH FRAMEWORK PROGRAMME

THEME "Environment"

ENV.2010.4.2.3-3 Brokerage activities to promote sustainable consumption and production patterns

Collaborative Project

**Project acronym: FOODLINKS**

**Knowledge brokerage to promote sustainable food consumption and production: linking scientists, policymakers and civil society organizations**

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# Deliverable D2.3:

# Pool of Tools and Methods

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# Pool of tools and methods

## *1.1.Introduction*

The overall framework to carry out Knowledge Brokerage activities (KBAs) within FOODLINKS is given by the concept of Communities of practice. Within this frame we carry out activities by using different methods and tools as instruments for the implementation of Knowledge Brokerage. This document represents the basis for an electronic pool, which will be available in the FOODLINKS intranet. It shall serve as a source for choosing appropriate instruments to carry out our KBAs within the thematic Communities of Practice. In addition we will create a virtual space where we will be able to add our own experiences in experimenting with some of the techniques. The envisioned procedure will be introduced in the scope our forthcoming consortium meeting.

The following list of tools and methods potentially applicable for the FOODLINKS CoPs has been compiled based on findings from literature, an internet search and exploratory interviews carried out with people engaged in knowledge brokerage activities. The pool shall be continuously expanded and supplemented whenever the project team will come across with further interesting tools. Moreover experiences with methods applied in the scope of FOODLINKS shall be added.

In order to give guidance for the practical implementation of the methods and tools the tables describing each of the methods contain information about the following aspects:

1) **main principle**: This section gives a short and general description of the method, a kind of brief summary describing the main principle of the method.

2) **purpose** and area of **application**: What could be the purpose, objective of using this method? (e.g to create a common understanding; to reveal tacit knowledge; to build a common vision; participatory model building etc.) In which contexts is the method applicable? Under which circumstances can the method provide additional assets? (participating actors, framework conditions)

4) **implementation**: How to put the method into practice?

> 4a) Procedure: description of the procedure, the sequence of steps, the use of specific instruments/tool during the process of implementation; information about what kind of preparation is necessary.
>
> 4b) Resources: What kind of facilitation is needed? Composition/setting of actors (if relevant). How much time does the planning, organisation and implementation need? (timeline) What costs need to be taken into account?)

5) **practical examples**: In order to illustrate the application of the method we point to best practice examples.

6) **potential pitfalls (and tips)**: This section refers to the challenges related to the use of the method/tool and gives tips for the practical implementation

7) **further information**: Finally references for further information (e.g. literature, websites, handbooks, availability of specific tools for the implementation) are included in the list..

For the moment the methods and tools are listed in alphabetical order; for the electronic version of the tool box we will group and substructure the items according to the methods' application.

## *1.2. Overview: Matrix of methods and tools*

| KB tool/method<br>Purpose & Application | Appreciative inquiry | Charette | Concept mapping | Dynamic learning agenda | Expert Interview | Force field analysis | Joint visioning | Learning journeys / study visits | Market place | Micro-blogging | Mind Mapping | Pairing | Role play / simulation | Peer review | Scenario building | Six Thinking hats | Social bookmarking | Social network analysis | Story telling | Time line / critical moments reflection | World Cafe | Writeshop |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Trust & alignment | X | | | | | | | | | | | X | | X | | | | | | | | |
| Community building | X | X | | | | | | X | | X | | X | | | | | X | X | X | | | |
| Problem solving | | X | | X | | X | X | | | | X | | | X | | X | | | | | X | |
| Common problem understanding | | | | | | X | | | | | | X | X | X | | X | | | | | | |
| Understanding of different viewpoints | | X | | | | | X | X | | X | | X | X | | | X | | | X | X | | |
| Knowledge sharing | | | X | | X | | | X | X | X | | X | | X | | | | X | X | X | X | |
| Develop a shared language | | | | | | | | | | | | | | | X | | X | | | | | X |
| Exchange of information & experience | | X | X | | X | | | X | X | X | X | X | | X | | | X | | X | | X | X |
| Building a shared vision | | | X | | | | X | | | | X | | | | X | | | | | | | |
| Collective knowledge generation | | | X | | | | | | | | X | | | X | | | | | | | | X |
| Collective action | | | | | | X | | | | | | X | | | X | | | | | | | X |
| Dissemination of findings | | | | | | | | | X | X | | | | | | | | | X | X | | X |
| Reflection & learning | | | | X | | | | X | | | | X | X | X | X | X | | X | X | X | | |
| Monitoring | X | | | X | | | | | | | | | | | | | | X | X | X | | |
| Knowledge Transfer? | | | | | | | | | | | | | | | | | | X | | | | |

## *1.3. Methods and tools*

| **Appreciative inquiry** | |
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| **Main principle** | Appreciative Inquiry is a particular way of asking questions and envisioning the future that fosters positive relationships and builds on the positive aspects of what works in a person, a situation, or an organization. The idea is to build from what works, rather than focusing on what does not. By acknowledging the contribution of individuals, the method aims to increase trust and alignment. |
| **Purpose & Application** | The method can be used for:<br>• strategic and project planning internally and externally with partners and stakeholders.<br>• community development.<br>• asset mapping.<br>• program assessment, monitoring and evaluation.<br>• team-building - helping teams to see a new way of working together.<br>• fostering innovation.<br>• conflict resolution.<br>• network building.<br>• fostering positive relationships<br>• increasing trust and alignment<br>• |
| **Procedure** | The Appreciative Inquiry Process is carried out in five main steps:<br>1. Definition: establishing the focus and scope of the inquiry.<br>2. Discovery: eliciting stories of the system at its best - this is started in pairs, with the stories then shared with larger groups.<br>3. Dream: collecting the wisdom and imagining the future - this includes graphically visualizing the desired future.<br>4. Design: bridges to the future based on the best of the past and the present - groups work to use assets discovered in the second phase to design a plan to create the desired future.<br>5. Destiny: Making it happen. |
| **Resources** | |
| **Example(s)** | MYRADA Appreciative Inquiry Project<br>http://www.iisd.org/ai/myrada.htm<br><br>A Positive Revolution in Change: Appreciative Inquiry<br>http://appreciativeinquiry.case.edu/uploads/whatisai.pdf |

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| **Challenges & Tips** | Appreciative Inquiry has been criticized for privileging a certain type of positive story. Given that negative stories are critical to human learning, this can be viewed as inauthentic or even manipulative, but can also be empowering. |
| **Further Information** | Sharing Knowledge webpage: http://www.kstoolkit.org<br><br>Michael, Sarah (2005) The promise of appreciative inquiry as an interview tool for field research. Development in Practice. 15 (2), 222-230.<br><br>ILAC Brief on Appreciative Inquiry in development settings http://www.cgiar-ilac.org/downloads/Briefs/Brief6Proof2.pdf |

| **(Audio-visual) learning history / time line / critical moment reflection** | |
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| **Main principle** | Critical Moments Reflection (or timeline or learning histories) help people reflect on past experiences. This methodology is based on the idea that learning begins with the examination of actual experiences and perspectives on those experiences. CMR leads groups through a reflective process that helps participants step back from their experiences, review their understanding of those experiences, and draw lessons that they can use to improve their future actions or work. |
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| **Purpose & Application** | The goal of CMR is to enable individuals and groups to uncover or create knowledge from their own experiences for improving their future actions.<br>• Monitoring (project review and evaluation)<br>• Reflection (sharing lessons learned)<br>• Learning |
| **Procedure** | 1. Setting the frame and identifying inquiry questions. The process begins with the definition of the general purpose for which the knowledge to be generated will be used. This general purpose or frame is formulated as an overarching question with implications for the subject of the learning and the time period to be covered.<br><br>For example, a framing question for a participatory evaluation could be: From the perspective of program beneficiaries, what can we learn about what worked or did not work so well during the first year of the program's operations which will help improve the program for future years? This overarching question indicates that the subject of the reflection is the effectiveness of program operations from the perspective of program beneficiaries, and the time frame is the first year of program activities.<br><br>As a subset of this frame or overarching question, the participants define more concrete questions (referred to as "Inquiry Questions") that reflect what they would each like to be able to answer with the reflective process. Once these questions have been formulated, the group reviews each of the questions and reformulates and prioritizes the questions until they are able to select one top |

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| | inquiry question that reflects the shared expectations of the group.<br><br>2. Generating critical moments. Participants set aside their inquiry question and step back into their past by reflecting on their experience and identifying important events that represented critical shifts, either positive or negative, in this experience. These events are referred to as "critical moments." Participants share their critical moments and organize them in a timeline that illustrates the evolution of the whole experience.<br><br>3. Selecting critical moments for further analysis. The facilitator re-introduces the top inquiry question that the group identified in step 2, and asks the participants to select the critical moments that, if analyzed in greater detail, would help them answer their top inquiry question. Because the critical moments time line often sheds new light on the experience, the group participants often slightly revise their inquiry question at this point to reflect any new learnings or revelations as a group, and then select the critical moments that, upon further analysis, would have implications for their revised inquiry question.<br><br>4. Storytelling, lessons and implications for inquiry question. Participants describe and analyze the selected moments in detail by telling the stories behind the moments and responding to probing questions from the facilitator. This process enables the participants to share, reflect on and analyze the experiences behind the critical moments, in order to identify lessons learned and the implications of these lessons for answering the inquiry question and moving their work forward. |
| **Resources** | |
| **Example(s)** | |
| **Challenges & Tips** | A special form of this method is the audiovisual learning history:<br><br>See for example the Translearning project:<br>http://www.translearning.net/transforum/ |
| **Further Information** | http://www.kstoolkit.org/Critical+Moments<br><br>http://www.transitiepraktijk.nl/en/experiment/method/learning-history-timeline-method |

| **Charrette** | |
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| **Main principle** | This face-to-face process is considered to be a powerful and effective tool for creative and collaborative problem-solving. Although this method often is applied to development and planning projects in local communities, it can be adapted different topics on different geographical levels. |
| **Purpose &** | Charrette is useful to generate consensus among a heterogeneous group of people |

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| **Application** | (from various sub-groups of society) within a short period of time, and at the best it creates joint ownership for problem solutions.<br><br>A Charrette can be used to:<br><br>• assemble practical ideas and viewpoints at the beginning of a planning process<br>• encourage input and collaboration from a wide range of participants<br>• facilitate decisions on difficult issues when a process is mature<br>• resolve indecision or deadlocks between groups toward the end of a process<br>• develop feasible projects and action plans with specific practical steps for the successful development<br>• of projects based upon citizen input<br>• identify potential funding sources for projects.<br><br>This method is particularly appropriate when the nature of the issue indicates a need for group participants in face-to-face interaction for stimulation and exchange of ideas and view. |
| **Procedure** | The implementation of the charrette process requires a number of steps: the pre-Charrette, the charrette workshop, the post-charrette.<br><br>1) The **pre-Charrette** phase focuses on developing and working with a kind of steering committee that determines the primary focus of the Charrette (main issue/problem). The steering committee is also in charge of coordinating the next two phases (establish time-line, meeting schedule, etc.). The pre-Charrette planning breaks the main issue into component parts, to which sub-groups of people are assigned. The subgroups periodically report back to the whole group and feedback from the whole is then addressed in the next round of sub-group discussions. This sequence is repeated until consensus has been reached.<br><br>2) The **Charrette Workshop**: The Charrette workshop is an intensive planning and design workshop involving participants in assessing needs, interviewing stakeholder groups, prioritising issues, developing recommendations, identifying specific projects and generating implementation strategies.<br><br>3) The **Post-Charrette**: The post-Charrette phase comprises the preparation of a final document that outlines strengths, challenges, recommendations, specific projects, actions steps and potential funding sources. |
| **Resources** | **Time**: depending on how easily consensus can be achieved, the duration could last from one day to several weeks; in some cases it is even a process that is repeated periodically. |
| **Example(s)** | Planning Charrette (Scottish Sustainable Communities Initiative)<br>http://www.scotland.gov.uk/Topics/Built- |

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| | Environment/AandP/Projects/SSCI/SSCICharretteSeries<br><br>Elaboration of strategies for financing land conservation efforts, stormwater protection, and local greenway efforts. (Shenandoah Resource Conservation & Development Council) http://www.shenandoahrcd.org/ProjCharrette1.htm<br><br>Design Ideas Charrette<br><br>http://www.urbanfarmhub.org/2010/04/at-uw-charrette-designers-turn-blank-canvases-into-productive-urban-farms/<br><br>Research Charrette used to engaging Industry in Best Practices Research: http://ascelibrary.org/coo/resource/1/jcemd4/v136/i1/p66_s1 |
| **Challenges & Tips** | |
| **Further Information** | Corporate Consultation Secretariat, Health Policy and Communications Branch (2000). Health Canada Policy Toolkit for Public Involvement in Decision Making. Minister of Public Works and Government Services Canada.<br><br>Gibson, G. Edward Jr., P.E., F.Asce and Donald A. Whittington, P.E. (2010) Charrettes as a Method for Engaging Industry in Best Practices Research. Journal of Construction Engineering and Management, 136 (1), 66-75.<br><br>Participatory methods toolkit: A practitioner's manual (2005); joint publication of King Baudouin Foundation and the Flemish Institute for Science and Technology Assessment (viWTA), http://www.viwta.be/files/30890_ToolkitENGdef.pdf<br><br>Segedy, J. and Johnson, B. The Neighborhood Charrette Handbook: Visioning and Visualising Your Neighborhood's Future. Sustainable Urban Neighborhoods. www.bsu.edu/cbp<br><br>The Charrette: A Uniquely Effective Way of Defining A Proposed Projects' Viability. http://home.att.net/~visualizer/Charrette.html, http://www.charretteinstitute.org/charrette.html |

| **Concept Mapping** | |
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| **Main principle** | Concept mapping is a structured process, focused on a topic or construct of interest, involving input from one or more participants, that produces an interpretable pictorial view, a concept map, of their ideas and concepts and how these are interrelated.<br><br>A concept map consists of nodes or cells that contain a concept, item or question and links. The links are labelled and denote direction with an arrow symbol. The labelled links explain the relationship between the nodes. The arrow describes the direction of the relationship and reads like a sentence. |

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| **Purpose & Application** | Concept mapping is a graphical tool for exploring and organizing knowledge and for gathering and sharing information. It helps people to think more effectively as a group without losing their individuality. It helps groups to manage the complexity of their ideas without trivializing them or losing detail.<br><br>Concept mapping can be applied for several purposes:<br><br>• Note taking and summarizing gleaning key concepts, their relationships and hierarchy from documents and source materials<br>• New knowledge creation: e.g., transforming tacit knowledge into an organizational resource, mapping team knowledge<br>• Institutional knowledge preservation (retention), e.g., eliciting and mapping expert knowledge of employees prior to retirement<br>• Collaborative knowledge modelling and the transfer of expert knowledge<br>• Facilitating the creation of shared vision and shared understanding within a team.<br>• concept maps can be used to provide an initial conceptual frame for subsequent information and learning.<br>• Increasing meaningful learning<br>• Communicating complex ideas and arguments<br>• Examining the symmetry of complex ideas and arguments and associated terminology<br>• Detailing the entire structure of an idea, train of thought, or line of argument (with the specific goal of exposing faults, errors, or gaps in one's own reasoning) for the scrutiny of others.<br>• Enhancing metacognition (learning to learn, and thinking about knowledge)<br>• Improving language ability<br>• Knowledge Elicitation<br>• Assessing learner understanding of learning objectives, concepts, and the relationship among those concepts<br>• Lexicon development |
| **Procedure** | A concept mapping process involves six steps that can take place in a single day or can be spread out over weeks or months depending on the situation.<br><br>1. **Preparation Step:** There are three things done here. The facilitator of the mapping process works with the initiator(s) (i.e., whoever requests the process initially) to identify who the participants will be. Second, the facilitator must then work with the participants or a subgroup to decide on the specific focus for the conceptualization. Finally, the group decides on an appropriate schedule for the mapping.<br>2. **Generation Step**: Once the participants and focus statements have been |

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| | defined, the actual concept mapping process begins with the generation of a set of statements which ideally should represent the entire conceptual domain for the topic of interest. In the typical case, brainstorming is used and the focus statement constitutes the prompt for the brainstorming session.<br>3. **Structuring Step**: Once a set of statements, which describes the conceptual domain for a given focus, has been compiled, information needs to be provided about how the statements are related to each other. In addition, we often want to rate each statement on some dimension which is defined by the rating focus statement. Both of these tasks constitute the structuring of the conceptual domain.<br>4. **Representation Step** is where the analysis is done. This is the process of taking the sort and rating input and "representing" it in map form. There are two major statistical analyses that are used. The first (multidimensional scaling) takes the sort data across all participants and develops the basic map where each statement is a point on the map and statements that were piled together by more people are closer to each other on the map. The second analysis (cluster analysis) takes the output of the multidimensional scaling (the point map) and partitions the map into groups of statements or ideas, into clusters. If the statements describe activities of a program, the clusters show how these can be grouped into logical groups of activities. If the statements are specific outcomes, the clusters might be viewed as outcome constructs or concepts.<br>5. **Interpretation Step:** There are three steps involved in the way in which we typically represent the conceptual domain. First, we conduct an analysis which locates each statement as a separate point on a map (i.e., the point map). Statements which are closer to each other on this map were likely to have been sorted together more frequently; more distant statements on the map were in general sorted together less frequently. Second, we group or partition the statements on this map into clusters (i.e., the cluster map) which represent higher order conceptual groupings of the original set of statements. Finally, we can construct maps which overlay the averaged ratings either by point (i.e., the point rating map) or by cluster (i.e., the cluster rating map).<br>6. **Utilization Step:** The group discusses how the final concept map might be used to enhance either the planning or evaluation effort. The uses of the map are limited only by the creativity and motivation of the group. |
| **Resources** | |
| **Example(s)** | Concept mapping fuels<br>http://www.energyeducation.tx.gov/pdf/223_inv.pdf<br><br>Concept map 'Peak oil'<br>http://skat.ihmc.us/servlet/SBReadResourceServlet?rid=1116355073336_1665336947_1059&partName=htmltext<br><br>Diet, Food and Health Concept Map<br>https://lh5.googleusercontent.com/-zlbbFAt2KsI/TX7oJSwx9ZI/AAAAAAAADCI/AzFZY-QFaPo/s1600/health_diet_food_concept_map2.jpg |

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| **Challenges & Tips** | |
| **Further Information** | Birbili, M. (2006) "Mapping Knowledge: Concept Maps in Early Childhood Education", Early Childhood Research & Practice, 8(2)<br><br>McAleese,R (1998) The Knowledge Arena as an Extension to the Concept Map: Reflection in Action, Interactive Learning Environments, 6,3,p.251-272.<br><br>Moon, B.M., Hoffman, R.R., Novak, J.D., & Cańas, A.J. (2011). Applied Concept Mapping: Capturing, Analyzing and Organizing Knowledge. CRC Press: New York.<br><br>Novak, J.D., Learning, Creating, and Using Knowledge: Concept Maps as Facilitative Tools in Schools and Corporations, Lawrence Erlbaum Associates, (Mahwah), 1998.<br><br>Trochim, W. (1989). An introduction to concept mapping for planning and evaluation. In W. Trochim (Ed.) A Special Issue of Evaluation and Program Planning, 12, 1-16. http://www.socialresearchmethods.net/research/epp1/epp1.htm<br><br>Trochim, W. (1989). Concept mapping: Soft science or hard art? In W. Trochim (Ed.) A Special Issue of Evaluation and Program Planning, 12, 87-110. http://www.socialresearchmethods.net/research/epp2/epp2.htm<br><br>Trochim, W. (1993) Reliability of Concept Mapping. Paper presented at the Annual Conference of the American Evaluation Association, Dallas, Texas. http://www.socialresearchmethods.net/research/Reliable/reliable.htm<br><br>Wikipedia: http://en.wikipedia.org/wiki/Concept_mapping |

| **Dynamic learning agenda** | |
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| **Main principle** | The Dynamic Learning Agenda (DLA) is a tool to record the essence of the fuzzy learning trajectories of innovative projects. The DLA tool especially attends to make visible the tough issues that are „swept under the rug" (Kleiner and Roth, 1996; B. Regeer, 2009). |
| **Purpose & Application** | Formulating, recording and updating long-term challenges and specific possible actions. |
| **Procedure** | Step 1: Observe and investigate current and expected learning topics<br><br>First the monitor identifies the difficulties the project encounters for transcending institutional boundaries and break through barriers that hamper implementation of the innovation/action. Some difficulties are openly discussed, and others are briefly expressed and then 'swept under the rug'.<br><br>Step 2: Construct Learning Log |

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| | Next the monitor reformulates the difficulties (which can also be perceived as learning issues) into questions. These questions are documented. Underneath each question, the monitor records which activities are planned or executed by the project to solve the questions. This document with multiple questions and activities is called the Learning Log, and can be seen as the private notes of the monitor. Because the Learning Log is repeatedly updated (hence the name Dynamic Learning Agenda), it is important to put the constructed date on the Learning Log. Then the monitor analyses the Learning Log. Special attention is given to the blind spots on the Log: the spots where no planned or executed actions are written. The questions that are placed above these „blind spots" are most likely tough learning issues.<br><br>Step 3: Putting the tough learning issues on the agenda<br><br>The monitor sensitively addresses the tough learning issues with the project manager and/or other project participants. Addressing the tough issue with compassion for the project makes it easier to openly discuss the topic than bluntly giving judgemental reflection. If the monitor succeeds in openly discussing the tough issue, it is important to steer the conversation away from complaining about the issue towards examining ways of how to deal with the issue. The reformulation of the annoyance into a question assists in thinking about strategies to solve the problem. It can take some time before project participants are able to go beyond the annoyance and embrace the question.<br><br>Step 4: Collectively plan and record strategies to solve tough issues<br><br>The monitor steers towards openly discussing possible actions to solve the questions with „blind spots". Do the project manager and/or other project participants have any ideas on how to tackle the issue? Can they reformulate these ideas into doable actions? The new planned actions are updated on the agenda.<br><br>Step 5: Evaluate actions and formulate lessons learned<br><br>During the next encounter with the project manager (or project participants), the monitor steers towards reflecting on the executed actions. To what extent were the interventions successful? Does this mean that the question on the Learning Agenda is tackled? Or are additional interventions needed? The monitor adds reviews on the effectiveness of the intervention strategy on the Learning Agenda. If questions are tackled, final lessons learned are formulated. These „closed" questions will disappear from the updated versions of the Learning Agenda (to be able to keep it readable). The lessons learned will be recorded and archived in the older versions of the Learning Agenda.<br><br>Step 6: Update Learning Agenda<br><br>The Learning Agenda is Dynamic, therefore the monitor investigates if new questions need to be added to the log. As such, step 1 to 5 are cyclical repeated and updated versions of the Learning Agenda are constructed. The new questions do not constantly exemplify new problems but can also be a specification or re-formulation of an earlier recognized problem. |
| **Resources** | |
| **Example(s)** | |

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| **Challenges & Tips** | In practice the execution of a DLA is not as clear cut as the step by step guide may imply. Although the learning agenda may be seen as simply a list with issues, the execution of a DLA requires a lot of consideration. |
| **Further Information** | http://www.cba.neu.edu/uploadedFiles/Site_Sections/OLKC_2010/Program_Overview/Parallel_Sessions/Hoes%20Regeer%20Bunders%20%20Facilitating%20Learning%20in%20Innovative%20Projects%20%20Reflectionson%20our%20experiences%20with%20ILA-monitoring(3).pdf<br><br>http://www.transitiepraktijk.nl/en/experiment/method/dynamic-learning-agenda |

| **Expert interview** | |
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| **Main principle** | The Expert interview is ideal for presenting content and encourages subject matter experts to share knowledge in an informal, relaxed setting. With minimal preparation of participants, the expert interview can be initiated in a workshop where participants don't yet know each other or the organisers. |
| **Purpose & Application** | The open layout encourages greater participation due to its informal nature, and is less intimidating than a panel discussion. |
| **Procedure** | For a session with 3 experts, place in front of the audience, 4 chairs on one side (for expert panel) and 2 chairs on the other (for audience member with questions) in the shape of an inverted V. The audience sits in a semi circle in front of these chairs<br><br>Process is:<br><br>•Session may run between 60-90 minutes.<br><br>•The facilitator :<br><br>◦Sets the tone by clarifying the purpose of the session<br><br>◦ensure the audience is aware of the scope of the guests' expertise<br><br>◦allows the audience to become experts should they want to answer a question<br><br>◦introduce and facilitate the question and answer process<br><br>◦request that audience members ask concise questions only, no lengthy preamble<br><br>◦captures the essence of answers on flipchart paper or cards which are then pinned on boards<br><br>•Facilitator introduces the guests/ experts and invites questions from audience.<br><br>•An audience member with a question walks up to the panel and sits on one of the |

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| | 2 chairs. The next person with a question can sit on the other chair. This keeps the pace going and reduces pauses between questions from the audience.<br><br>•Once the question is answered by one of the experts, the audience member gets off the chair and the next one waiting steps up to the first chair and so on.<br><br>•If any audience member would like to answer a question or add to the expert's answers, he/she walks up to the panel and sits on the empty chair next to the experts and answers. This keeps the exchange fresh and allows interaction without creating a divide between the experts and the audience.<br><br>•Facilitator captures major points on flipchart or cards as the session progresses so that the audience may view them.<br><br>•To close the session, the facilitator thanks the guests/ experts and summarizes the points made using the flipchart/ cards. |
| **Resources** | |
| **Example(s)** | |
| **Challenges & Tips** | •This is a great way to get subject matter experts to share their knowledge in a less traditional setting. So it is best to inform the expert of the process and the expectations.<br><br>•Ideal for 2 -3 experts only, otherwise it becomes tedious<br><br>•The extra chair next to the panel of experts gives the audience the message that anyone can be an expert by sharing their know-how. It takes pressure off the experts and also removes any hierarchical connotations. |
| **Further Information** | Source: http://www.kstoolkit.org/Expert+Interview |

| **Force Field Analysis** | |
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| **Main principle** | The Force Field Analysis is a useful technique for looking at all the forces for and against a plan/a decision. It looks at forces that are either driving movement toward a goal (helping forces) or blocking movement toward a goal (hindering forces), and it helps you to weigh the importance of these factors and decide whether a plan is worth implementing. By carrying out the analysis it can be planned to strengthen the forces supporting a decision, and reduce the impact of opposition to it. |
| **Purpose** | The Force Field Analysis can help to take a decision, and it can support to work out how to improve success either through reducing the strength of the opposing forces, or to increase the pushing forces. Often the most appropriate solution is the first: just trying to force change through may cause its own problems as people can be uncooperative if change is forced on them. |

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| **Application** | The method is useful:<br>• when looking at the variables involved in planning and implementing a change<br>• in team building processes, when attempting to overcome resistance to change.<br>• to develop an action plan to implement change<br>• to suggest actions to reduce the strength of the obstacles<br>• determine if a proposed change can get support<br>• identify obstacles to successful solutions<br>• to investigates the balance or power in an issue<br>• to identify the most important people (stakeholders) and groups involved or affected<br>• to identifies opponents and allies<br>• to identifies how to influence the target group through action planning |
| **Procedure** | 1. Using adjectives and phrases, describe the current situation as it is now and the desired situation as the vision for the future<br>2. Identify what will happen if there is no action taken<br>3. List all the driving and restraining forces for the change<br>4. Discuss the key restraining forces and determine their severity<br>5. Discuss the key driving forces and determine their strength<br>6. Allocate a score to each using a numerical scale where 1 is very weak and 10 is very strong<br>7. Chart the forces by listing, in strength scale, the driving forces on the left and the restraining forces on the right<br>8. Explore the restraining forces and the best way to address them<br>9. Explore the driving forces and the best way of advancing them<br>10. Identify priorities and produce an action plan |
| **Resources** | |
| **Example(s)** | Force Field Analysis applied in a school situation<br>http://www.crossroad.to/Quotes/brainwashing/force-field.htm |
| **Challenges & Tips** | |

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| **Further Information** | Thomas J. (1985) 'Force Field Analysis: A New Way to Evaluate Your Strategy', Long Range Planning, Vol. 18, No. 6, pp. 54-59.<br><br>Lewin K (1997): Resolving Social Conflicts and Field Theory in Social Science<br><br>12Manage webpage: Analyzing change factors: the driving forces and the restraining forces. Explanation of Force Field Analysis and Diagram. http://www.12manage.com/methods_lewin_force_field_analysis.html<br><br>Improvement Network webpage: http://www.improvementnetwork.gov.uk/imp/aio/1035279<br><br>Overseas Development Institute http://www.odi.org.uk/rapid/tools/toolkits/communication/docs/forcefield_analysis.pdf<br><br>Institute for Innovation and Improvement http://www.institute.nhs.uk/quality_and_service_improvement_tools/quality_and_service_improvement_tools/force_field_analysis.html |

| **Group model building** | |
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| **Main principle** | Group model building (GMB) is a process that uses the collaborative construction of models to allow stakeholders to bound a problem and explore alternative options for its solution. Many modelling tools and languages have been tested in application to examine various aspects of bio-physical or social or socio-ecological perspectives on systems. The history of policy failures arising from reliance on a single perspective and/or tool has prompted the development of processes that can integrate multiple perspectives using a variety of tools. Success has been defined by the achievement of consensus on definitions of the problem, terminology, useful hypotheses to test, and exploration of possible implications of these hypotheses. Another measure of success is the commitment to action shared by group members. (Magnuszewski 2010) |
| **Purpose & Application** | GMB can be used to (Magnuszewski 2010):<br>• integrate a diversity of experiences through direct participation in model construction and validation.<br>• achieve commitment to action shared by group members.<br>• learn about a complex process: The primary goal of participatory model building is not to build a model itself, but to put people in a position to learn about complex „wicked“ problems.<br>• achieve consensus on definitions of the problem, terminology, useful hypotheses to test, and exploration of possible implications of these hypotheses.<br>• GMB is especially useful to learn about problems referring to situations that stubbornly resist solutions because the problems emerge from a |

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| | messy tangle of different factors (socio-cultural, economic, environmental), operating at different scales. |
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| **Procedure** | Group model building should be embedded in an iterative learning cycle. The cycle consists of assessment, policy formulation, implementation and monitoring and is often referred to as Adaptive Management. Systems modelling is applied in the assessment phase first to understand the problem in dynamic terms. Models are used to put forward hypotheses as to how systems structure determines the observed trends. Then, during policy (strategy) formulation, models are modified to propose alternative systems structures to improve the situation. However, the model outcomes are not as important as a dialogue between stakeholders. The modelling process makes it possible to challenge individual mental models and find new innovative solutions or make better strategic decisions.<br><br>Magnuszewski (2010) describes the following methods/tools to be used for GMB:<br><br>**Causal loop diagrams**<br><br>Causal loop diagrams provide an example of a qualitative systems tool. The modelling process starts from identifying variables and causal links between them and proceeds with identification of feedback loops – closed chains of causal connections. In a group setting, conceptual modelling helps to establish a common language in order to develop mutual understanding shared by all group members (see chapter 1.3 as well). The model can function as the knowledge container; open and easily modifiable when new facts or ideas are provided or revealed during the process. Causal loop diagrams proved to be a valuable tool to enhance communication between actors engaged in the problem and can help in planning successful system interventions.<br><br>**Concept Maps**<br><br>Concept maps are graphical tools for organizing and representing knowledge. They consist of concepts and relationships (marked as lines) between them. Words on the line, referred to as linking words or linking phrases, specify the relationship between the two concepts. |
| **Resources** | |
| **Example(s)** | |
| **Challenges & Tips** | Ideally group participatory building process requires a series of meetings involving a group of stakeholders committed to solve a problem. Additionally it needs a facilitator and experienced modeller. Most meetings require preparation in the form of interviews, gathering information and anticipatory modelling. (Magnuszewski 2010) |
| **Further Information** | Magnuszewski, P., Sodomkova, , K., Slob, A., Muro, M., Sendzimir, J., Pahl-Wostl, C. (2010) Report on conceptual framework for science-policy barriers and bridges. Project report from PSI-connect – Policy Science Interactions: connecting science and policy. |

| Learning Journeys or (regional/national) study visits | |
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| **Main principle** | A physical trip where a team travels together in order to immerse themselves in the issue they are trying to address, allowing them to see it with fresh eyes through the experiences and perspectives of others |
| **Purpose & Application** | Exchange of information and experience and knowledge sharing |
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| **Procedure** | Instructions for the Learning Journeys can include: Turn all cell phones off and be completely present to the visit.<br><br>Listen and observe carefully. Pay attention to both what you see and what you don't. Listen to both the words and the "music." Take notes as you need for your own use. These notes should capture your key insights and key quotes (in the hosts' own voices).<br><br>Ask questions of the people you are visiting; pay attention to their thinking and feelings. Also, notice your own thinking and feelings: your reactions, judgments, projections, etc.<br><br>Listen from "within" the people with whom you are talking, with empathy and without judgment. It's not about what you think their story is—it's what their story really is.<br><br>Access your ignorance and cultivate a sense of wonder.<br><br>If possible, split up and walk around to talk with more people. Remember that whatever unexpected things happen are all a part of the learning journey.<br><br>When you get back on the bus —spend ten minutes in silence. Reflection is often deepened this way. Please do not begin "chatting" or checking voice mail, email, etc.<br><br>Then, talk together as a group: What stood out for you during the visit? What did you see, what did you hear, and what did you feel? What surprised you? What did you notice about your own "noticing" during the visit—about your own thoughts and feelings and those of the group?<br><br>Post-Learning Journey: Dinner and Debrief at Local Restaurants |
| **Resources** | |
| **Example(s)** | MetroAg – facilitated by REOS<br>http://www.worldofminds.com/projects/metroAG/Global%20Summit%20on%20Metropolitan%20Agriculture%2029%20&%2030%20September%202010/index.html |

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| **Challenges & Tips** | The debrief is the most important part of the Learning Journey. It is essential that it happens in a structured way. |
| **Further Information** | |

| **Marketplace / Poster exhibition** | |
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| **Main principle** | To offer a space for the participants to exhibit their experiences, knowledge, skills and products, and to encourage dialogue and exchange. |
| **Purpose & Application** | The Project Marketplace is a chance for participants who have done action-research or project work to showcase learning and outcomes. Share knowledge, experience and information. |
| **Procedure** | Groups or individuals prepare a poster at the beginning of the information market and give a short announcement on what the "buyers" can expect.<br><br>Everyone is encouraged to visit the displays, talk with each other, ask questions, make suggestions, and offer resources and coaching through a structured process.<br><br>After a visiting time of about 30 min to one hour, the plenary meets in the middle of the marketplace and visitors explain what they have "bought" at the market and what further initiatives may result from the dialogue and exchange. |
| **Resources** | |
| **Example(s)** | MetroAg – facilitated by REOS<br>http://www.worldofminds.com/projects/metroAG/Global%20Summit%20on%20Metropolitan%20Agriculture%2029%20&%2030%20September%202010/index.html<br><br>Research meets Policy workshop (Food I) - CORPUS project<br>http://www.scp-knowledge.eu/sites/default/files/Research_Meets_Policy_Workshop_Documentation_final_0.pdf |
| **Challenges & Tips** | |
| **Further Info** | VIPP |

| **Micro-blogging** | |
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| **Main principle** | Microblogging is a form of blogging that allows users to write brief text updates (usually less than 140 characters) and publish them, either to be viewed by anyone or by a restricted group which can be chosen by the user |
| **Purpose & Application** | Microblogging has been increasingly used to share resources, ask questions of colleagues and peers and to raise visibility of web resources by disseminating key URLs. With the use of "hashtags" users can look at all messages with a shared tag, thus getting a broader sense of an issue.<br>• Post an idea, a useful link, ask for quick feedback.<br>• As an informal communication tool<br>• Announcements to promote events/ activities<br>• Updates from colleagues you 'follow'. By selecting the right people, you are now privy to their experiences, ideas and insights. You have the potential to 'mine' their resources as your followers 'mine' yours.<br>• You get breaking news.<br>• Networking is easier. The informal setting allows quick introductions<br>• Connect within a community at work, increase visibility and engage with partners and colleagues.<br>• Less email.<br>• Real-time sharing during events (e.g. conferences, training events, meetings). It is one of the key tools for social reporting, i.e. "is where a group of participants at an event interactively and jointly contribute to some form of reporting, in text, photos, images or video. The resulting "social report" is made accessible, usually online, as soon as possible, sometimes as a half-product. This allows others to join in, to extend, to adjust or remix." Microblogging during events increases visibility and outreach of the knowledge that is generated at a rapid pace during face-to-face meetings, and it helps build a level of engagement and participation that goes beyond physical presence. |
| **Procedure** | Get an account on http://www.twitter.com or one of the other microblogging service<br>Decide if you want to post your "tweets" or message on the Twitter page, or via one of the desktop applications such as tweetdeck or hootsuite<br>Start following someone you know, follow them and then pick some people they are following.<br>Look for links to microblogging on the websites, blogs and other social media tools or web2.0 tools of people who produce information that is of interest to you. |

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| **Resources** | Twitter / Yammer |
| **Example(s)** | |
| **Challenges & Tips** | •Hashtags are when you put a # sign in front of a tag within your tweet. People have built tools to aggregate the hashtags, so this is one way to bring together different messages from different people around one topic. There are also other ways to aggregate tweets (see the next section.)<br><br>•@username - When you see an @ sign in front of a name, such as @ictkm, it means that the reply is directed to a specific personp, in this case ictkm.<br><br>•D @username - You can also send direct or private messages so that others do not see them.<br><br>•RT @username: - You can re-post a message someone else has posted to your own followers using "RT" or "Retweeting" in front of the message.<br><br>When not to use microblogging:<br><br>•When the people you want to connect to/reach aren't using similar services. This is still an early adopter tool.<br><br>•When you want to have a more nuanced, in depth exchange of ideas |
| **Further Information** | http://www.kstoolkit.org/Microblogging |

| **Mind Mapping** | |
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| **Main principle** | A mind map is a graphical way to represent ideas and concepts. It is a visual thinking tool, which consists of a central word or concept (preferably a picture), around which ideas that relate to that image are drawn. In a mind map links are usually “passive”, not representing anything more than association. |
| **Purpose & Application** | Mind maps are used to:<br>• note taking<br>• structuring information<br>• brainstorming (individually or in groups)<br>• motivate for creativity<br>• better analyze, comprehend, synthesize, recall and generate new ideas<br>• problem solving<br>• studying and memorization |

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| | • (strategic) planning<br>• exploring and consolidating information from multiple sources<br>• presenting information<br>• gaining insight on complex subjects<br>In contrary to traditional note taking or a linear text, in a mind map the information is structured in a way that resembles much more closely how your brain actually works. Since it is an activity that is both analytical and artistic, it engages your brain in a much, much richer way, helping in all its cognitive functions and avoids linear thinking. |
| **Procedure** | Mind mapping could also be done by simply using paper and utensils fro physical drawing, but it also can be implemented with software tools (see e.g. http://www.graphic.org).<br>The general procedure is very simple:<br>1. One starts in the centre of the page by writing or drawing the main idea in the middle of a blank page.<br>2. Developing the related subtopics around this central topic, connecting each of them to the centre with a line. One may work outward in all directions, producing a growing and organized structure composed of key words and images<br>3. Repeating the same process for the subtopics, generating lower-level subtopics as they fit, connecting each of those to the corresponding subtopic. |
| **Resources** | http://www.mindmeister.com/ |
| **Example(s)** | Fuzzy Cognitive Mapping – Eisenwurzen<br>http://www.umweltbundesamt.at/umweltschutz/oekosystem/lter_allgemein/mfrp_eisenwurzen/projekte_eisenw/soz_oek_forsch/fcm/ |
| **Challenges & Tips** | Recommendations for drawing the map:<br>• Using colours, drawings and symbols. Pictures can be supportive to remember information more effectively than words.<br>• Varying text size, colour and alignment: A variation in thickness and length of the lines can be used to emphasize important points. Colours may help to separate ideas/subtopics.<br>• Keeping the topics labels as short as possible, keeping them to a single word – or, better yet, to only a picture. Especially in first mind maps, the temptation to write a complete phrase is enormous, but one always should look for opportunities to shorten it to a single word or figure – the mind map will be much more effective that way. |

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| | • Using cross-linkages: Information in one part of the Mind Map may relate to another part. Through drawing lines cross-linkages can be showed. This helps to see how one part of the subject affects another.<br>The elements of a given mind map are arranged intuitively according to the importance of the concepts, and are classified into groupings, branches, or areas, with the goal of representing semantic or other connections between information. |
| **Further Information** | Decision Explorer webpage: http://www.banxia.com/dexplore/resources/whats-in-a-name/<br>http://omni.bus.ed.ac.uk/opsman/oakland/inst18.htm<br>Buzan, Tony (2006) The Mind Map Book", BBC Active.<br>Wikipedia: http://en.wikipedia.org/wiki/Mind_map |

| **Pairing of researchers and policy makers / cross organisational knowledge sharing**[1] | |
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| **Main principle** | This methods consists of pairing scientists with policy makers |
| **Purpose & Application** | Pairing can be used to:<br>• help practising research scientists understand the pressures under which politicians & civil servants operate.<br>• help researcher to learnt how to contribute directly to the science policy-making process.<br>• give politicians & civil servants the opportunity to forge direct links with a network of practising research scientists (e.g. enhanced their knowledge of science and helped improve their awareness of issues such as funding of scientific research and university career structure.)<br>• give politicians & civil servants the opportunity to familiarise themselves with the process of scientific understanding and topical research and ultimately to be able to bring this knowledge into better informed discussions and decision making<br>The method can further outcomes: joining a science lobbying group and working together on local environmental issues, attending events or writing joint articles |

[1] Comm FH: Perhaps we can merge this one with the study visits / learning journey.. Although I think that the study visit is more a one off event while I see this pairing as something taking place over a more extended period of time (and being reciprocal).

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| | Successful cross-organisational knowledge sharing depends on a number of preconditions:<br><br>• Those involved and the organisations, as well, must clearly see a need for crossorganisational knowledge sharing and a benefit must result for all partners.<br>• The organisations involved require sufficient resources, such as time and funding for cross-organisational knowledge sharing, or they have to allocate their immediate resources accordingly<br>• Cross-organisational knowledge sharing is strongly based on good personal relationships or networks. These relationships form the basis for the necessary trust and confidence.<br>• Those individuals involved and their organisations have to be strongly committed to cross-organisational knowledge sharing and should not treat it as a side activity.<br>• Important are intercultural communication skills, open-mindedness and the willingness to learn from others.<br>• Cross-organisational knowledge sharing requires facilitators or brokers, be it organisations or people, who link organisations and people and moderate the communication flows.<br><br>A sustainable partnership requires a culture of give and take. If partners feel exploited through cross-organisational knowledge sharing they will retreat. |
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| **Procedure** | Example of the pairing procedure of the Royal Society:<br><br>The pairing scheme of The Royal Society starts with a 'Week in Westminster' - a programme of activities for the scientists which aims to give them a taste not only of the approach to science policy but of Parliament and the Civil Service in general. The 'week' takes place in October or November each year.<br><br>During the 'week' Members of parliament (MPs) or civil servant will spend a day with their scientist to give further insight to their working life. Scientists will also attend seminars, lectures and tailored workshops relating to science in Parliament and Government. There will also be opportunity to tour the Houses of Parliament and attend Select Committee meetings.<br><br>Other activities may include attending Prime Minister's Question Time and debates in the House of Commons, observing meetings with Ministers, following the MP to press interviews, visiting Government offices and attending policy meetings.<br><br>After the 'Week in Westminster' the pairs undertake reciprocal visits. Scientists paired with an MP might spend a day at the MP's constituency office attending meetings on local issues, observing a session of the MP's surgery (an opportunity for constituents to raise problems or seek advice from their MP) and attending an event, such as a meeting at a school. Scientists paired with civil servants might get to attend workshops and high level meetings in their civil servants department. The MPs and civil servants are invited to visit the scientist's research facilities and have the opportunity to talk to staff and students, hear about the research and help conduct an experiment. Thus in total we ask MPs and civil servants to commit 3-4 days of their |

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| | time over an extended period during which they will both share their experiences and receive a unique opportunity to gain an insight to the scientific process. |
| **Resources** | |
| **Example(s)** | The Royal Society – a practical case<br>http://royalsociety.org/Royal-Society-Pairing-Scheme-Case-Study/<br>http://royalsociety.org/General_WF.aspx?pageid=7277&terms=mp+pairing+scheme<br><br>Parliamentary Office of Science & Technology<br>http://www.parliament.uk/business/publications/research/post/<br><br>The Hansard Society<br>http://www.hansardsociety.org.uk/<br><br>Parliamentary Office of Science & Technology (POST) |
| **Challenges & Tips** | |
| **Further Information** | http://www.kstoolkit.org/Cross+Organisational+Knowledge+Sharing |

| **Role playing games / Simulation games** | |
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| **Main principle** | Games model complex processes and relations between actors. They are open-ended evolving situations with many interacting variables. The goal for all participants is to take a particular role, address the issues, threats, or problems that arise in the situation, and experience the effects of their actions and decisions. Participation typically involves both playing a game and debriefing the experience to expose the role of underlying systemic structure. |
| **Purpose & Application** | Simulations or role-playing games have several characteristics that make them useful in different types of complex situations. They:<br>• provide a framework that incorporates player strategies in an integrative structure<br>• allow people to formulate their own understanding of complex situations<br>• permit players to employ (collaborative) strategies in a group process<br>• stimulate participants to actively contribute their expertise<br>• provide the opportunity to break through old interpretative frameworks<br>• bring diverse ideas to address problems or issues |

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| | • can be used in combination with other instruments or methods like visualization techniques and simulation models.<br>Through active participation; they offer a learning context that encourages for experiments.<br>Games can be used for:<br>• gaining an improved understanding of the a complex issue/problem<br>• better understanding of roles and positions of involved actors<br>• learning about the complex structure of an issues/problem<br>• learning about interdependencies between actors<br>• to achieve a better understanding of the positions and values of others<br>Simulations or role-playing games can be used for:<br>• mobilizing relevant actors;<br>• initiating communication and mutual understanding between actors<br>• defining actors‘ needs and objectives<br>• facilitating change<br>• ex ante evaluation of potential policy options<br>• eliciting knowledge from actors<br>assessing or extending a system analysis |
| **Procedure** | A simulation or role-playing game needs to be supported by a facilitator (knows about both, the process and the issue at stake). It is structured in three phases (see Magnuszewski 2010):<br>Introduction: The introduction includes an explanation of the purpose of the simulation or role-playing game, the scenario, rules and components of the game and a description of the various roles. The scenario should provide a good background for the game and gets all participants off on an equal footing. Participants receive a comprehensive instruction on the roles they play, the rules and the resources that are available to them.<br>Simulation: The process of the simulation game can be thought of as the mechanism through which the roles in the game interact with each other and with the game environment (e.g. visuals, equipment). The facilitator is responsible for controlling the process. There are a variety of facilitator-generated tasks (e.g. forms, voting) as well as player-generated tasks (e.g. negotiation, developing and implementing strategies), by which the participants are stimulated to analyse situations, find solutions and make decisions. Some games proceed by rounds that structure the game as equal steps of game time (e.g. one round equals one year of a game time). Participants make decisions at the end of each round that are fed into the simulation and produce results communicated to them at the beginning of a next round. This allows for a timely feedback that is critical to effective learning in complex systems.<br>Debriefing: The debriefing is a systematic end-of-game discussion to evaluate the |

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| | exercise. For the analysis of the game process, the findings of the participants can be used and recording methods such as video recordings, reports from observers. Depending on the purpose, the emphasis of analysis is placed on communication between the players, the way participants deal with each other, interactions with simulated environment and/or decisions and their effects. |
| **Resources** | The time frame should be fixed in the beginning; the time needed can range from some hours to several days.<br><br>Some technical artefacts might need to be prepared (e.g. manuals, maps, technical support tools, etc.). |
| **Example(s)** | Simulation/Role playing games Water board Rivierenland – PSI Connect project (report on prototypes of knowledge brokering instruments) http://www.psiconnect.eu |
| **Challenges & Tips** | The PSI project defined the following boundary conditions:<br><br>In general, participants should have at least some affinity with the issue at stake. It is desirable that participants represent many relevant aspects and views on the matter. Before the simulation starts, participants should be aware of the fact that they actually share a common problem which needs to be addressed. Only when the participants are open to learn are simulation/role-playing games worth playing.<br><br>It is necessary to have one clearly defined central person facilitating the game who has sufficient knowledge of all relevant aspects and views on the matter.<br><br>Technical constraints should be minimized, so that people can participate easily.<br><br>Give a strong and cautious emphasis to debriefing at the end of the game in order to go from the game analysis to consequences for the real world (HarmoniCOP) |
| **Further Information** | Simulation games – PSI-Connect webpage: http://www.psiconnect.eu<br><br>Bean, M. (2001) The Four Key Attributes of Successful Training Simulations. http://forio.com/resources/face<br><br>Duke, R.D. (1974) Gaming: the future's language. Halstead Press, New York<br><br>Duke, R.D. & Geurts, J.L.A. (2004) Policy games for strategic management; Pathways into the Unknown. Amsterdam, Dutch University Press<br><br>Duijn, M., Immers, L.H., Waaldijk, F. & Stoelhorst, H.J (2003) Gaming approach Route 26: a combination of computer simulation, design tools and social interaction. Journal of Artificial Societies and Social Simulation vol. 6, no. 3. |

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| | Magnuszewski, P., Sodomkova, , K., Slob, A., Muro, M., Sendzimir, J., Pahl-Wostl, C. (2010) Report on conceptual framework for science-policy barriers and bridges. Project report from PSI-connect – Policy Science Interactions: connecting science and policy.<br><br>MIT-Harvard Public Disputes Program. A list of simulation materials. http://web.mit.edu/publicdisputes/teach/list.html<br><br>Sterman, J. D. (1992) Teaching Takes Off: Flight Simulators for Management Education. OR/MS Today, 40-44<br><br>Wikipedia. http://en.wikipedia.org/wiki/Category:Role-playing_games.<br><br>Wikipedia. http://en.wikipedia.org/wiki/Live_action_role-playing_game.<br><br>Washington-Ottombre, C., B. Pijanowski, D. Campbell, J. Olson, J. Maitima, A. Musili, T. Kibaki, H. Kaburu, P. Hayombe, E. Owango, B. Irigia, S. Gichere, A. Mwangi (2010) Using a role-playing game to inform the development of land-use models for the study of a complex socio-ecological system. Agricultural Systems, 103 117-126. |

| **Socratic conversation ( Peer review / peer assessment (“Intervisie”) )** | |
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| **Main principle** | The Socratic method (or Socratic debate), is a form of inquiry and debate between individuals with opposing viewpoints based on asking and answering questions to stimulate critical thinking and to illuminate ideas. It is a dialectical method, often involving an oppositional discussion in which the defence of one point of view is pitted against the defence of another; one participant may lead another to contradict him in some way, strengthening the inquirer's own point. |
| **Purpose & Application** | To stimulate reflection and critical thinking, encourage learning, use actuality/topicality of participants to create a sense of urgency. The Socratic method searches for general, commonly held truths that shape opinion, and scrutinizes them to determine their consistency with other beliefs.<br><br>The method can be used for:<br>• testing logics<br>• discovering beliefs about some topic 8bringing about inconsistencies and inadequacies of beliefs)<br>• explore definitions<br>• examination to concepts that seem to lack any concrete definition |
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| **Procedure** | Socratic method steps:<br><br>Step 0 – Identify a case.<br>The facilitator meets the case presenter a couple of days in advance of the meeting and tries to come to an "intriguing question" something that is really occupying him/her (something (s)he worries about). This intriguing question is the starting point in the CoP meeting.<br><br>**Step 1** - Start and reflect on previous case.<br>At the start of the meeting, participants first discuss the narrative report by the previous case presenter to find out what has happened since the last meeting.<br><br>**Step 2** – Selected case presenter briefly outline his case focussing on an intriguing question (max 3 min).<br><br>**Step 3** – Others are allowed to ask 2 open questions (no advice or suggestions should be given at this stage) to explore the problem further and get a clear understanding. The case presenter notes the questions down on a flip over.<br><br>**Step 4** – The case presenter values the questions one by one + (=hot, relevant and offers new perspective), 0 (=neutral, relevant but not new), - (=cold, not relevant). Subsequently the case presenter briefly answers all questions and explains his scoring. Others just listen.<br><br>**Step 5** – Others are allowed to ask a final question, which is directly answered by the case presenter.<br><br>**Step 6** – The listeners define the problem in their words. And the case presenter again valuates the problem definitions by the others<br><br>**Step 7** – Case presenter reformulates his problem on the basis of all inputs<br><br>➔ Up to here, the process is focussed on finding the right questions not the answers. In the next part, the participants and the case presenter can start looking for possible solutions to the problem.<br><br>**Step 8** – Others are allowed to offer a possible solution based on their own experience in similar situations<br><br>**Step 9** – The case presenter decides what will be the focus he want to explore to solve the problem at hand. Listeners can react.<br><br>**Step 10** – The case presenter decides on next steps<br><br>**Step 11** – Reflection report<br><br>The case presenter makes a narrative report including possible impressions, insights and emotions of the "peer review" experience<br><br>Possible at the end of the session: the facilitator can ask how the participants experienced the session. What have they personally learned/gained? |
| **Resources** | |

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| **Example(s)** | CoP Netwerk Platteland |
| **Challenges & Tips** | |
| **Further Information** | http://www.scooptrainingen.nl/de%20Socratische%20Intervisie%20Methode.pdf<br><br>Socratisch gesprek: http://www.intervisie.nl/incidentmethode.html<br><br>Incident method: http://www.intervisie.nl/incidentmethode.html |

| **Scenario building** | |
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| **Main principle** | There are various definitions of scenarios and scenario development but there is a general agreement that scenarios are *not* predictions or projections (Rotmans et al., 2000; van Notten et al., 2003). Scenarios rather narrative descriptions of potential futures outlining alternative images of the future with the assumption that future developments are unpredictable and stress the need to take uncertainty into account in decision making. Scenarios may portray what might happen, why it might happen, and with what consequences<br><br>In general, one can distinguish between 3 basically different modes of thinking about the future by asking *What will happen?*, *What can happen?*, and *How can a specific target be reached?* (Börjeson et al 2006, Reisch et al. 2011):<br><br>a) **predictive scenarios**: these scenarios consists of two different types:<br>1) the *what-if scenarios* aim to answer what will happen on the condition that of some specific events;<br>2) *forecast scenarios* respond to the question about what will happen on the condition that the likely development unfolds.<br><br>b) **exploratory scenarios:** aim to explore possible futures and develop a set of scenarios on a long time horizon in order to allow structural changes. Typically participants develop a set o scenarios in order to span a wide scope of possible developments.<br>Exploratory scenarios can be divided into external and strategic scenarios:<br>1) *external scenarios* focus on factors that cannot be controlled by the actors.<br>2) *strategic scenarios* aim to describe possible outcomes of strategic decisions by including and testing policy measures.<br><br>c) **normative scenarios**: have explicitly normative starting points and aim to reveal how certain future situations or objectives can be reached. One may distinguish between two types of such scenarios:<br>1) *preserving scenarios* assume that the targets can be reached without transformation; they mainly work with optimising modelling or in qualitative way.<br>2) *transforming scenarios* are used if structural changes are needed, transforming scenarios have to be used, such as “backcasting”; these typically result in a number of images or visions of the future illustrating how specific outcomes or a certain |

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| | target can be reached.<br>However, scenario building in practice can also be built on combinations, e.g. predictive and explorative or normative. |
| **Purpose & Application** | Scenarios can be used for several purposes, and they may serve a wide range of different functions in regard to knowledge brokerage.<br>The main applications are to:<br>• respond to and influence development<br>• generate alternative trajectories for future developments<br>• to consider multiple variables simultaneously<br>• discover existing problems and identify uncertainties<br>• discover emerging problems/trends and aspects uncertain aspects for future (opportunities, threats), improve preparedness for emergencies and contingencies, to build a common vision among participants, better understand the viewpoints of others<br>• enhance consensus building and increase the level of social learning (through participatory scenario building processes)<br>• creating common language and understanding – working across disciplines, departments etc<br>• prepare for unexpected changes<br>• stimulate critical thinking and challenge prevailing assumptions<br>• improve long-term decision-making; guide key choices<br>• build future oriented knowledge and action networks<br>• generate a vision and action plan for realisation<br>• examine policies/strategies in regard to their robustness across a range of possible futures (in contrary to focussing only on the supposedly most likely future)<br>• build alternative visions<br>Scenarios are particularly useful in situations where the past or present is unlikely to be a guide for the future; this especially allies when:<br>• the problem is complex, many factors need to be considered<br>• the degree of uncertainty about the future is high (technical, methodological and/or epistemological uncertainties – Reilly & Willenbockel 2010)<br>• a significant change is highly likely<br>• dominant trends may not be favourable and need to be analysed<br>the time horizon is relatively long |
| **Procedure** | Several scenario building methods have been developed; the implementation procedure |

cited here is a common approach, developed by Schwartz (1996):

**Step 1**: Identification of the **focal issue or decision**

This step aims to narrow down the broadly defined topic at stake to a focal issue or a concrete question; it also includes a decision for the scope (e.g. Austria, Europe, specific region, etc.) and a decision for the time horizon (e.g. 10 years).

**Step 2**: Identification of **key forces in the local environment** (microenvironment)

By considering the most relevant issues identified in step 1, the key factors influencing success/failure that would influence the outcome need to be identified (e.g. consumption patterns, supply, transport, etc.).

**Step 3**: **List of driving forces** (macro environment)

The list describes the drivers and barriers (social, environmental, economic, technological, political issues or values, demographics and public opinion) that will or could affect the key factors; they can be identified by asking "*What are the macro-environmental forces behind the micro-environmental forces listed in Step 2?*" The exploration of these forces is the most work-intensive step, it can be done in a scenario workshop, but also through interviews, focus groups, additional research, etc.. Search for major trends and trend breaks.

**Step 4**: **Ranking** of key forces and drivers by importance and uncertainty

For each of the forces and drivers the degree of importance for the success of the focal issue/decision needs to be identifies, and the degree of uncertainty as to how it will develop. Two or three that are both most important and most uncertain should be identified. This rating can be done within a scenario workshop or separately by doing interviews or focus groups.

**Step 5**: Selection of **scenario logics**

Two ore three key factors (identified within step 2) need to be chosen to provide the 'logics' (assumptions) of the scenarios. They build the 'axes' along eventual scenarios will differ (e.g. a globalisation axis differing between local/regional and global and a social values axis differing between community and individual would result in 4 Scenarios: community/global, individual/global, individual/regional, and community regional).

**Step 6**: Fleshing out the scenarios

The logics give the skeleton of the scenarios. In this step now the scenarios need to be fleshed out by returning to the key factors and trends listed in Steps 2 and 3. Each key factor and trend should be given some attention in each scenario. Depending on the type of scenario 8predictive, exploratory, normative), that should be built

**Step 7:** Exploration of Implications

This step refers back to the focal issue or decision in Step 1 and explores how a strategy can be more robust; the implications for the focal issue or decision need to be considered for each scenario . How does it look in each scenario? What vulnerabilities have been revealed? Is the strategy robust across all scenarios? How could it be adapted to make it more robust?

**Step 8**: Selection of leading indicators and signposts:

The purpose is to be able to detect various actual developments as early as possible so that

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| | the strategies can be adapted appropriately; indicators and signals are supporting this assessment. A review of all the scenarios will provide information of leading indicators and signposts for each scenario. The more concrete this indicators are, the easier it is to monitor them and to detect the emergence of (future) developments.<br><br>**Step 9**: Development of a strategy<br><br>Scenarios could also be used for strategic planning, to move from scenarios to plans and to inform decision making. Ringland (2002) describes this step as including several activities: strategic analysis (e.g. by using SWOT), scenario creation, strategy finding (strategic orientation), and finally the formulation of a strategy. |
| **Resources** | Along with the different ways of building scenarios, required resources may differ according to which steps are implemented and how this is done.<br><br>Time: depending on which steps are actually conducted. For conducting a process from step 1 to step 6 a minimum of two days is suggested. |
| **Example(s)** | Agrimonde Scenarios and Challenges for Feeding the World in 2050<br><br>http://www.fcrn.org.uk/sites/default/files/Agrimonde_Feeding_the_world_in_2050_Summary_Report.pdf<br><br>Catham House Food Supply Project<br>https://www.hsdl.org/hslog/?q=node/4165<br><br>CONSENTSUS Project<br>http://consentsus-project.pbworks.com/w/page/16379760/FrontPage<br><br>The future of food and farming<br>http://www.bis.gov.uk/assets/bispartners/foresight/docs/food-and-farming/11-546-future-of-food-and-farming-report.pdf<br><br>Gotheborg 2050<br>http://www.goteborg2050.se<br><br>WWF Livewell study<br>http://assets.wwf.org.uk/downloads/livewell_report_corrected.pdf<br><br>Getting into the right land for EU 2050<br>http://www.rivm.nl/bibliotheek/rapporten/500150001.pdf<br><br>FAAN Project<br>http://www.faanweb.eu/sites/faanweb.eu/files/FAAN_D4_Scenario_Workshops.pdf<br><br>Lienert, J., Monstadt, J. and Truffer, B. (2006) Future scenarios for a sustainable water sector: A case study from Switzerland. Environmental Science and Technology 40(2), 436-442. |

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| **Challenges & Tips** | According to Schwarz (1996)[2] the following aspects need to be considered when developing scenarios:<br>• Beware of ending up with three scenarios. People are tempted to identify one of them as the "middle" or "most likely." But also avoid having too many scenarios.<br>• Avoid assigning probabilities to scenarios. However, it may make sense to make two reasonably likely scenarios and compare them to two "wild card" scenarios.<br>• Pay a great deal of attention to naming your scenarios. Successful names telegraph the scenario logics.<br>• Pick your scenario team based on these considerations: 1) support and participation from the highest levels is essential; 2) a broad range of functions and divisions should be represented; 3) look for imaginative people with open minds who can work well together as a team.<br>• You can tell you have good scenarios when they are both plausible and surprising; when they have the power to break old stereotypes; and when the makers assume ownership of them and put them to work. Scenario making is intensely participatory, or it fails. |
| **Further Information** | Danish Board of Technology: www.tekno.dk<br><br>Cairns, G., Wright, G., Van der Heijden, K., Bradfield, R. and Burt, G. (2006) Enhancing foresight between multiple agencies: Issues in the use of scenario thinking to overcome fragmentation. Futures 38(8), 1010-1025.<br><br>Global Exploratory Scenarios. Millennium Project.<br><br>ICIS Building Blocks for Participation in Integrated Assessment: A review of participatory methods.<br><br>Practical Guide to Regional Foresight in the United Kingdom.<br><br>Ringland, G. (2002) Scenarios in Public Policy. West Sussex: John Wiley & Sons Ltd.<br><br>Schwartz, P. (1991) The Art of the Long View. Chichester: John Wiley & Sons.<br><br>Social Analysis: Selected Tools and Techniques. World Bank Social Development Paper Number 36, June 2001.<br><br>OKeefe M. and Wright G. (2010) Non-receptive organizational contexts and scenario planning interventions: A demonstration of inertia in the strategic decision-making of a CEO, despite strong pressure for a change. Futures, 42(1), 26-41.<br><br>Participatory methods toolkit: A practitioner's manual (2005); joint publication of King Baudouin Foundation and the Flemish Institute for Science and Technology Assessment (viWTA), http://www.viwta.be/files/30890_ToolkitENGdef.pdf<br><br>Van der Heijden, Kees (1997) Scenarios: The Art of Strategic Conversation. Chichester: John |

[2] http://www.scenariosforsustainability.org

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| | Wiley & Sons.<br><br>van der Heijden, Kees (2000) Scenarios and forecasting: Two perspectives. Technological Forecasting and Social Change 65(1), pp.31-36.<br><br>van der Heijden, K., Bradfield, R., Burt, G., Cairns, G. & Wright, G., (2002) The sixth sense: Accelerating organisational learning with scenari<br><br>van Notten, P.W.F., (2005) Chapter 4. Scenario Development: a typology of approaches. Chapter based on doctoral dissertation – Writing on the wall. Scenario Development in Times of Discontinuity. http://www.oecd.org/dataoecd/27/38/37246431.pdf<br><br>van Notten, P.W.F., Rotmans, J., van Asselt M.B.A. & Rothman D.S., (2003) An updated scenario typology. Futures 35(5), pp. 423-443.<br><br>Volkery, A. and Ribeiro, T. (2009) Scenario planning in public policy: Understanding use, impacts and the role of institutional context factors. Technological Forecasting and Social Change 76(9), 1198-1207.<br><br>Wehmeyer,Walter, Clayton, Anthony and Lum, Ken (eds) (2002) Greener Management International, Issue 37: Foresighting for Development. |

| **Social Network Analysis** | |
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| **Main principle** | Social network analysis is the mapping and measuring of relationships and flows between people, groups, organisations, computers or other information/knowledge processing entities." (Valdis Krebs, 2002). Social Network Analysis (SNA) is a method for visualizing our people and connection power, leading us to identify how we can best interact to share knowledge. There are also methods to actually measure network interaction, power etc. (e.g. UCINET). |
| **Purpose & Application** | Improve knowledge sharing, build communities<br><br>Understand the structures of existing networks/communities:<br><br>• Information flow / interaction<br>• Identify powerful positions in the network: information brokers, cutpoints (bottlenecks), information sources<br>• Identify subgroups<br>• Visualize relationships .<br>• Facilitate identification of who knows who and who might know what - teams and individuals playing central roles - thought leaders, key knowledge brokers, experts, etc.<br>• Identify isolated teams or individuals and knowledge bottlenecks.<br>• Strategically work to improve knowledge flows. |

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| | • Accelerate the flow of knowledge and information across functional and organisational boundaries.<br>• Improve the effectiveness of formal and informal communication channels.<br>• Raise awareness of the importance of informal networks |
| **Procedure** | Key stages of the process will typically include:<br>•Identifying the network of people to be analysed (e.g. team, workgroup, department).<br>•Gathering background information - interviewing managers and key staff to understand the specific needs and problems.<br>•Clarifying objectives, defining the scope of the analysis and agreeing on the level of reporting required.<br>•Formulating hypotheses and questions.<br>•Developing the survey methodology and designing the questionnaire.<br>•Surveying the individuals in the network to identify the relationships and knowledge flows between them.<br>•Use a software mapping tool to visually map out the network.<br>•Reviewing the map and the problems and opportunities highlighted using interviews and/or workshops.<br>•Designing and implementing actions to bring about desired changes.<br>•Mapping the network again after a suitable period of time." |
| **Resources** | Ucinet / Netdraw, Visone (good for visualisation) |
| **Example(s)** | |
| **Challenges & Tips** | To do a full network analysis, it is crucial to 1. Clearly define the boundaries of your network and 2. To thoroughly think of the question to ask to EACH of the members of the network.<br>For Ego-Networks you do not have to interview all members of a network, but the focus is more on the individual (as embedded in a network) |
| **Further Information** | http://www.kstoolkit.org/Social+Network+Analysis<br>http://www.visone.info/ |

| **Story telling** | |
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| **Main principle** | Storytelling may embed tacit knowledge in narratives and share it with others; it can build a shared knowledge base, provide a shared understanding, make sense of past actions, and may provide for future visions.<br><br>A specific variety is the *springboard story* (see www.stevedenning.com ). It enables a leap in understanding by the audience so as to grasp how an organisation or community or complex system may change. A springboard story has an impact not so much through transferring large amounts of information, but through catalysing understanding. It enables listeners to visualise from a story in one context what is involved in a large-scale transformation in an analogous context. |
| **Purpose & Application** | Storytelling can increase the potential for sharing knowledge as well as experiences; it offers some advantages in comparison to traditional communication techniques:<br><br>• It allows for the articulation of emotional as well as factual content; thus it enhances sharing tacit knowledge, which is in general that more difficult to share than explicit knowledge.<br>• It provides information about the broader context in which knowledge arises, which may increase the potential for meaningful knowledge sharing.<br>• By grounding facts in a narrative structure, learning is more likely to take place and be passed on<br>• Monitoring purpose (stories can help to make sense of collected quantitative data)<br><br>Stories can be used to:<br><br>• develop trust and commitment<br>• convey values, ethics, norms<br>• break down barriers between multidisciplinary or multi-cultural teams<br>• exchange positive experiences<br>• organizational and/or partner achievements<br>• exchange promising practices<br>• infrastructure development<br>• lessons learned<br>• monitor systems<br>• generate emotional connections (stories convey emotions)<br><br>In the context of Communities of Practices stories are often used to:<br><br>• building stronger relationships<br>• recruit new members/participants<br>• pass over community information to new members and other interested parties<br>• call for support or fund raising |

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| **Procedure** | The detailed implementation can differ according to the purpose and specific setting (e.g. story telling in pairs versus in a group); however, in general the procedure implies 5 steps:<br>1. Capturing the story: The procedure is started by introducing the theme for storytelling. This could be focused on a specific theme, or on a range of themes. The key is to provide a context in which participants think about and select the story they are going to share.<br>2. Crafting the story: participants convert their experiences into a story by including predefined basic key information (e.g. purpose, outcomes, main actors). The key aspects could be formulated using a story template as a guide.<br>3. Telling the story: Participants shall pair up/gather in groups to tell their stories (see tips for good stories).<br>4. Internalizing the story: The listener(s) internalize the story and reflect on what has been told against their own background of experiences; questions may be asked, interesting aspects may be discussed. This shall lead to a shared understanding.<br>5. Documenting the story: the listener(s) are supposed to take notes for the documentation; they report back to the storyteller what they documented. If necessary, further questions and discussions could follow to come up with a shared understanding |
| **Resources** | |
| **Example(s)s** | Landcare in the Philippines: Stories of People and Places<br>http://aciar.gov.au/publication/MN112<br><br>Colton, S. et al. 2004) Telling Tales: Oral Storytelling as an Effective Way to Capitalise Knowledge Assets<br>http://spark.spanner.org/ul/t/ta_SPARKPRESS_Folders_ASSETS_Current_2003_04_Telling_Tales_dec03.pdf<br><br>Examples of storytelling in the development sector<br>http://www.sparknow.net |
| **Challenges & Tips** | Good stories are those that are interesting, unusual, provocative, serious, controversial, surprising, intriguing, or inspiring in some way. The story should in generally:<br>• be told simple and powerful.<br>• play to what is already in people's minds.<br>• be demand driven, and timed to coincide with specific opportunities. |
| **Further Information** | Denning, S. (2000) The Springboard. How Storytelling ignites Action in Knowledge-Era Organisations. Butterworth Heinemann / KMCI Press<br><br>Steve Denning's website: www.stevedenning.com |

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| | Building Bridges Using Narrative Techniques, by Stephanie Colton and Victoria Ward (Sparknow Ltd., London) and Jeannine Brutschin (SDC), Swiss Agency for Development and Cooperation (SDC)<br>www.deza.ch/ressources/resource_en_155620.pdf<br><br>Lambert, J. (2010) Digital Storytelling: Capturing Lives, Creating Community. Digital Diner. Press, Berkeley, California.<br><br>The Art of Story Telling website: http://www.eldrbarry.net/roos/art.htm<br><br>Polleta, F. (2005) Contending Stories: Narrative in Social Movements. The Drum Beat, Issue 307, 11 July 2005. www.comminit.com/evaluations/eval2005/evaluations-69.html<br><br>Nielsen, L., Madsen, S. (2006) Storytelling as Method for Sharing Knowledge across IT Projects. In: HICSS '06 Proceedings of the 39th Annual Hawaii International Conference on System Sciences, Vol. 8<br><br>Sparknow website: http://www.sparknow.net<br><br>Bhardwaj, M., and Monin, J. (2006). Tacit to explicit: Interplay shaping organization knowledge. Journal of Knowledge Management,. 10(3), 72-85.<br><br>Swap, W., Leonard, D., Shields, M., and Abrams, L. (2001). Using mentoring and storytelling to transfer knowledge in the workplace. Journal of Management Information Systems Vol. 18, No. 1, pp. 95-114. |

| **Joint visioning exercise** | |
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| **Main principle** | By defining a desirable future, visioning is similar to scenario planning. Visioning is a collective exercise carried out within a group of people to make the problem and solution visual. |
| **Purpose & Application** | The method is highly participatory, and can be used to share different perspectives in order to come up with a joint vision about the future, and it may help to achieve a desirable future. Visioning exercises are regularly used in strategic planning and allow participants to create images that can help to guide change in a system or organisation. The outcome of a visioning exercise is a medium-to-long-term plan, generally with a three to five-year horizon. Visioning exercises also provide a frame for a strategy for the achievement of the vision.<br><br>Visioning tools may also be used to promote thought and encourage discussion of future resource use and planning options, without the need to create a future-orientated document<br><br>Visioning can be used for integrated approaches (e.g. in policy-making) due to its cooperative character, which allows for multi-agency involvement, frequently including joint interagency leadership. It is often used if the widest possible participation for |

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| | developing long-range plans/strategies or to formulate certain directions is needed.<br><br>Visioning has a high potential to bring in often-overlooked issues and it accounts for relationships between issues.<br><br>Visioning is applied:<br><br>• to set the stage for short-range planning activities<br>• to set new directions (e.g. in policy)<br>• to review existing measures, policies, etc.<br>• when integration between issues is required<br>• when a wide variety of ideas should be heard<br>• when a range of potential solutions is needed. |
| **Procedure** | In a typical visioning exercise, a facilitator asks participants to close their eyes and imagine something as they would like to see it in some years. In order to specify their vision questions are asked, like What do you see when you walk through the municipality's canteen? Who is there? What are people eating there? etc.<br><br>People record their visions in written or pictorial form: in diagrams, sketches, models, photographic montages and written briefs. Sometimes, a professional illustrator or an artist may help to turn mental images into drawings.<br><br>Finally the visions are presented, and the group discusses and comments on these visions; this may also include discussions about what was easy and what was difficult about the process, what they learned. |
| **Resources** | |
| **Example(s)** | Evisioning exercise in participatory planning<br>http://www.unhabitat-kosovo.org/repository/docs/Visioning%20leaflet_web_eng.pdf?PHPSESSID=93cca2c46dbf69632a575289713eacf1<br><br>Methods and Approaches of Futures Studies<br>http://crab.rutgers.edu/~goertzel/futuristmethods.htm<br><br>PSI-Connect project: Joint visioning in Arnemuiden<br>http://public.cranfield.ac.uk/c082621/psi%20connect/documents/d1.3_psiconnect_report_on_prototypes_of_kb_instruments.pdf (p.34)<br><br>The Future of Auckland's Waterfront<br>http://www.arc.govt.nz/albany/fms/main/Documents/Auckland/Waterfront%20development/Waterfront%20Consultation%20Phase%201.pdf |

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| **Challenges & Tips** | As suggested by Magnuszewsky (2010) setting ground rules can prevent allegations that the decision-making process unfairly favours one actor over another. Moreover, enforcing ground rules consistently and equally can prevent overly hostile interactions and generate a sense of momentum and interpersonal trust within the process when people are seen promptly following up on commitments. |
| Further Informatio n | Ames, Steven C. (1989) Charting a Course for Corviallis: A Case Study of.Community Visioning in Oregon, Gresham, Oregon: American Planning.Association (Oregon Chapter), Oregon Visions Project<br><br>Ames, Steven C. (1993) The Agency Visioning Handbook: Developing A Vision for the Future of Public Agencies, A Hands-on Guide for Planners and Facilitators in State and Federal Natural Resource Agencies. Arlington, Virginia: US Fish and Wildlife Service<br><br>Magnuszewski, P., Sodomkova, , K., Slob, A., Muro, M., Sendzimir, J., Pahl-Wostl, C. (2010) Report on conceptual framework for science-policy barriers and bridges. Project report from PSI-connect – Policy Science Interactions: connecting science and policy.<br><br>United States Fish and Wildlife Service Cointelligence Institute (2002) 'A Toolbox of processes for community work'<br>http://www.cointelligence..org/CIPol_ComunityProcesses.html<br><br>COSLA (1998) 'Focusing on Citizens: A Guide to Approaches and Methods'<br>www.communityplanning.org.uk/documents/Engagingcommunitiesmethods.pdf<br><br>New Economics Foundation and UK Participation Network (1998) 'Participation Works: 21 Techniques of community participation for the 21st century'<br>http://www.neweconomics.org/gen/uploads/doc_1910200062310_PWA4.doc |

| **Six Thinking Hats** | |
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| **Main principle** | This tool enables groups to look at a decision from several points of view. This forces participants to move outside a habitual thinking style and helps achieve a more rounded view of a situation. It was created by Edward de Bono in his book Six Thinking Hats. |
| **Purpose & Application** | Many successful people think from a very rational, positive viewpoint: this is part of the reason they are successful. Often, though, they may fail to look at a problem from an emotional, intuitive, creative or negative viewpoint. This can mean that they underestimate resistance to plans, fail to make creative leaps, and do not make essential contingency plans. Similarly, pessimists may be excessively defensive; more emotional people may fail to look at decisions calmly and rationally. |

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| **Procedure** | You can use six thinking hats in meetings or on your own. In meetings, it has the benefit of blocking the confrontations that happen when people with different thinking styles discuss the same problem. Each hat is a different style of thinking. These are explained below:<br><br>White hat: Objective, neutral thinking in terms of facts, numbers and information. With this thinking hat you focus on the data available. Look at the information you have, and see what you can learn from it. Look for gaps in your knowledge, and try either to fill them or take account of them. This is where you analyse past trends and try to extrapolate from historical data.<br><br>Red hat: Emotional, with judgements, suspicions and intuitions. 'Wearing' the red hat, you look at problems using intuition, gut reaction and emotion. Also, try to think how other people will react emotionally. Try to understand the responses of people who do not fully know your reasoning.<br><br>Black hat: Negative, sees risks and thinks about why something will not function. Using black hat thinking, look at all the bad points of the decision. Look at it cautiously and defensively. Try to see why it might not work. This is important because it highlights the weak points in a plan, allowing you to eliminate them, alter them, or prepare contingency plans to counter them. Black hat thinking helps to make your plans 'tougher' and more resilient. It can also help you to spot fatal flaws and risks before you embark on a course of action. Black hat thinking is one of the real benefits of this technique, as many successful people get so used to thinking positively that often they cannot see problems in advance. This leaves them under-prepared for difficulties.<br><br>Yellow hat: Positive, optimistic, clear, effective and constructive. The yellow thinker helps you to think positively and to put concrete suggestions on the table. It is the optimistic viewpoint that helps you to see all the benefits of the decision and the value in it. Yellow hat thinking helps you to keep going when everything looks gloomy and difficult.<br><br>Green hat: Creative, seeks alternatives. The green hat is where you can develop creative solutions to a problem. It is a freewheeling way of thinking, in which there is little criticism of ideas. Provocation is an essential part of the green thinking. A |

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| | whole range of creativity tools can help you here.<br><br>Blue hat: Thinking about thinking. The blue thinker's role is to keep an overview of what thinking is necessary to scout the subject. The blue thinker is responsible for giving summaries, surveys and conclusions. The blue thinker keeps the discipline and brings the discussions back on to the right track. The blue hat stands for process control: this is the hat worn by people chairing meetings. When running into difficulties because ideas are running dry, they may direct activity into green hat thinking. When contingency plans are needed, they will ask for black hat thinking, etc. |
| **Resources** | |
| **Example(s)** | Under pressure from donors, media and beneficiaries, those working in housing and settlement efforts in Sri Lanka after the tsunami used the six hats approach in order to plan and implement reconstruction efforts more effectively. The German government, through its Federal Ministry for Economic Cooperation and Development (BMZ), is supporting key Sri Lankan governmental organizations in facilitating and implementing the housing and reconstruction process.<br><br>The Sri Lankan and German counterparts jointly conducted the planning of the entire project, including its outcomes and key activities. The joint project planning sessions commenced with the six thinking hats methodology, which was used to generate a shared sense of the key issues in the reconstruction process that needed to be further explored and practically addressed.<br><br>For more, see:<br><br>www.tafren.gov.lk/portal/index.jsp?sid=3&nid=14&y=2005&m=8&d=1 |
| **Challenges & Tips** | Six thinking hats is a good technique for looking at the effects of a decision from a number of different points of view. It allows necessary emotion and scepticism to be brought into what would otherwise be purely rational decisions, opening up the opportunity for creativity within decision making. The technique also helps, for example, persistently pessimistic people to be positive and creative. Plans developed using the thinking hats technique will be sounder and more resilient than would<br><br>otherwise be the case. It may also help you to avoid public relations mistakes, and spot good reasons not to follow a course of action before you have committed to it. |
| **Further Information** | Source: http://www.odi.org.uk/resources/download/153.pdf |

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| | - Mind Tools, see: www.mindtools.com/pages/article/newTED_07.htm.<br><br>• De Bono, E. (1999) Six Thinking Hats, New York: Back Bay Books.<br><br>• Edward de Bono's webpage, see: www.edwdebono.com. |

| **Social bookmarking** | |
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| **Main principle** | A tag is a collaboratively generated, open-ended labelling system that enables Internet users to categorize content such as Web pages, online photographs, and Web links.<br><br>Social bookmarking is the use of a web-based site that stores your tags and the tags of people you know, so you can benefit from their bookmarks as well as your own. |
| **Purpose & Application** | Taxonomies can contribute to making explicit knowledge embedded in documents available at the point of need. They also help the mapping and categorisation of tacit knowledge. They promote collaboration and sharing by mapping and coordinating the sharing. They also help putting knowledge into practice by making sense of the knowledge and creating a common vocabulary and a common way of working. |
| **Procedure** | 1. Choose a tag.<br><br>2. Recruit Taggers. In a group of 20 people, having 2 taggers will make a difference. It doesn't have to be everyone. Some people are better scanners/taggers than others. Try and find out if anyone is already using del.icio.us and tagging. Then ask them to consider tagging for the group as well.<br><br>3. Make the tag feed visible to users. So this may mean you are recruiting users, or simply making the fruits of the tagging visible to an existing group. You can pull the RSS feed and embed it in a blog or webportal page or any site that allows simple scripts. You can find the RSS feed for any tag at the lower left of that tag page on del.icio.us. |
| **Resources** | |
| **Example(s)** | delicious |
| **Challenges & Tips** | •A tag should be somehow obviously related to the topic. People need to be able to remember it.<br><br>•If it is related to an event, add a year at the end. So if we wanted to identify the CGSocialmedia resources to this year, we could make the tag CGSocialmedia09<br><br>•If you need it to be unique to your group, you will have to work harder to make the tag unique. The tag socialmedia is used by many people so it is too generic.<br><br>•Some caveats: Tags that are too long, have slightly weird spelling or too obtuse |

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| | tend to have challenges. People forget them, mispell (and thus mistag) them. So bottom line, keep it as simple as you can while still being unique. |
| **Further Information** | Source: http://www.odi.org.uk/resources/details.asp?id=5753&title=knowledge-taxonomies-literature-review<br><br>http://www.kstoolkit.org/Tagging+-+Social+Bookmarking |

| **World Cafe** | |
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| **Main principle** | The World Café is an easy-to-use method for fostering a creative process for collaborative dialogue and the sharing of knowledge and ideas, particularly in large groups. It is, simultaneously, a provocative metaphor enabling us to notice the often invisible webs of conversation and social learning which lie at the heart of our capacity to share knowledge and shape the future together. |
| **Purpose & Application** | The method is used in order to:<br>• engage large groups (larger than 12 persons – up to more than 100) in an authentic dialogue process<br>• generate input, share knowledge, stimulate innovative thinking and explore action possibilities concerning real life issues and questions<br>• engage people in authentic conversation – whether they are meeting for the first time or have established relationships with each other<br>• conduct in-depth exploration of key strategic challenges or opportunities<br>• deepen relationships and mutual ownership of outcomes in an existing group<br>• create meaningful interaction between a speaker and the audience |
| **Procedure** | Participants (4-5 people) discuss a question or issue in small groups around tables. Tables should be covered with paper and coloured pens need to be prepared for documenting the discussion (could be notes or drawings). At regular intervals the participants move to a new table. One table host remains and summarises after each change the previous conversation to the new table guests. Thus the proceeding conversations are cross-fertilised with the ideas generated in former conversations with other participants. At the end of the process the main ideas are summarised in a plenary session and follow-up possibilities are discussed.<br><br>One World Café event may explore a single question or several questions may be developed to support a logical progression of discovery throughout several rounds of dialogue.. |
| **Resources** | |

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| **Example(s)** | Policy meets Research Workshop on Food (CORPUS Project)<br>http://www.scp-knowledge.eu<br><br>Good Engagement seminar of the Office for the Community & Voluntary Sector (NZ)<br>http://www.ocvs.govt.nz/work-programme/building-good-practice/good-practice-in-action/art-of-hosting.html |
| **Challenges & Tips** | The question(s) addressed in a Café conversation are critical to the success of the event – it considerably affects the outcome of the inquiry. According to Steyaert et al (2005) it is important to establish an approach of 'appreciative inquiry'. The major premise is that the questions are asked in a way that set the focus on a specific issue. For example, if asked 'What is wrong and who is to blame?' a certain dynamic of problem-identification may be induced compared to questions that invite the exploration of possibilities and to connect them with why they care.<br><br>Knowledge emerges and creativity thrives in response to compelling questions, thus questions should be generated that are relevant to the actual concerns of the participants. People engage deeply when they feel they are contributing their ideas to questions that are important to them. Powerful questions help to attract collective energy, insight and action.<br><br>Good questions:<br>• are simple and clear<br>• are thought provoking<br>• are energy generating<br>• open new possibilities<br>• focus inquiry<br>• surface unconscious assumptions |
| **Further Information** | The World Café website: http://www.theworldcafe.com<br><br>Participatory methods Toolkit: A practitioner's manual<br>http://www.kbs-frb.be/uploadedFiles/KBS-FRB/Files/EN/PUB_1540_Participatoty_toolkit_New_edition.pdf<br><br>Brown, J. (2002) The World Café: A Resource Guide for Hosting Conversations That Matter. Mill Valley, CA:Whole Systems Associates.<br><br>Brown, J., Isaacs, D. and the World Café Community (2005) The World Café: Shaping Our Futures Through Conversations That Matter. Berrett-Koehler. |

| World Café adapted to Opening Dinner | |
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| **Main principle** | At the start of the project / workshop participants get the opportunity to meet each other informally and start on-topic conversations through a social event. |
| **Purpose & Application** | Build trust, getting to know each other |
| **Procedure** | Example from a MetroAg –dinner "From Farm to Fork: Linking Us to Our Food and Each Other":<br><br>The menu identifies the origin of the course's ingredients on a map. Specific question are supposed to be discusses during the dinner. The participants switch tables for each course.<br><br>Dinner Questions:<br>• What is your personal and professional connection to food and agriculture?<br>• What are you working on now that most excites you?<br>• As you look at the map and read a little about where tonight's food comes from, what surprises you? Does anything make you curious?<br>• What is unique to your region that you want us to know?<br>• Where do you see NEW opportunities showing up?<br>• Anything else you'd like to share? |
| **Resources** | |
| **Example(s)** | MetroAg – facilitated by REOS<br>http://www.worldofminds.com/projects/metroAG/Global%20Summit%20on%20Metropolitan%20Agriculture%2029%20&%2030%20September%202010/LinkedDocuments/MetroAG-SummitReport_1712.pdf |
| **Challenges & Tips** | Process should be supported by table's hosts to organise the movement of diners. |
| **Further Information** | |

| Writeshop | |
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| **Main principle** | This technique is used to develop materials, revise and put them into final form as quickly as possible, taking full advantage of the expertise of the various writeshop |

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| | participants |
| **Purpose & Application** | Develop a shared language, increasing utilisation of research findings, translation of research findings in concrete products.<br><br>The writeshop allows inputs from all participants to be incorporated, taking advantage of the diverse experience and expertise of all present. It allows ideas to be validated by a range of experts in the field. The concentration of resource persons, editors, artists and desktop-publishing resources at one time and place enables materials to be produced far more quickly than is typical for similar publications. And the sharing of experiences among participants develops networks that continue to be fruitful long after the writeshop itself. |
| **Procedure** | In such a workshop researchers bring in the findings they want to present. They are supported by professional communication specialists to put this information into formats that policy makers can understand. Draft formats are shared with policy makers to get their feedback, upon which researchers improve their materials. Professional designers will then help to put these in user-friendly design. At the end of the workshop, publication/information materials have been developed.<br><br>***Preparation***<br>Before the writeshop, a steering committee lists potential topics and invites resource persons to develop first drafts on each topic, using guidelines provided. These participants bring the drafts and various reference materials with them to the writeshop.<br><br>***Draft 1***<br>During the writeshop itself, each participant presents his or her draft paper, using overhead transparencies of each page. Copies of each draft are also given to all other participants, who critique the draft and suggest revisions.<br><br>After the presentation, an editor helps the author revise and edit the draft. An artist draws illustrations to accompany the text. The edited draft and artwork are then desktop-published to produce a second draft. Meanwhile, other participants also present papers they have prepared. Each, in turn, works with the team of editors and artists to revise and illustrate the materials.<br><br>***Draft 2***<br>Each participant then presents his or her revised second draft to the group a second time, also using transparencies. Again, the audience critiques it and suggests revisions. After the presentation, the editor and artist again help revise it and develop a third draft.<br><br>***Draft 3***<br>Towards the end of the writeshop, the third draft is made available to participants for final comments and revisions.<br><br>***Finalizing***<br>The final version can be completed, printed and distributed soon after the writeshop. |

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| | The writeshop process is very flexible.<br><br>It can be used to produce many different types of information materials: a bound book, a set of leaflets, posters, press releases, radio scripts, training materials or curricula, research articles, and so on. |
| **Resources** | Depending on the type of output, the writeshop can last anything from a day or so to 2 weeks. |
| **Example(s)** | Many good examples by International Institute for Rural Reconstruction (IIRR) http://www.iirr.org/index.php/knowledge/ |
| **Challenges & Tips** | |
| **Further Information** | Paul Mundy, Evelyn Mathias and Isaac Bekalo, 2006. Out of heads and onto paper. LEISA Magazine 22(1). http://www.mamud.com/Docs/outofheads.pdf<br>http://www.mamud.com/writeshop.htm#advantages |

| **Systems Mapping** | |
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| **Main principle** | Systems maps are used as thinking tools, they can also be used as communication tools. They have a simple form, consisting of blobs and words, and they are used to show the structure of a system of interest at a point in time. They show this structure as a hierarchy of groupings. |
| **Purpose & Application** | As a thinking tool it can be used to<br>• reflect, understand and plan<br>As a communication tool it can be used to<br>• show, describe and guide<br>System maps can be used to<br>• model an existing, explicit structure<br>• create a new mental model => this enables to structure thinking about systems and to discuss this with others |
| **Procedure** | A system map could be done bottom up or top down.<br><br>***Top down***: is useful when a clear purpose for the system of interest has been identified.<br>1) Drawing the boundaries of the system<br>2) Draw the subsystems, then the sub-sub-systems, and so on (always |

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| | moving doewn a level)<br>Bottom up: for a situation where the purpose for the system of interest is still undecided, but where many of the elements of the system can be identified.<br>1) draw the elements/components likely to build up the system<br>2) group the elements according to criteria<br>3) Next I need to give each blob a title or name that indicates the kind of categorisation I've used.<br>4) go up a level and group the groupings<br>5) repeat the grouping until you were ready to draw a boundary around the whole of your system. This would be your top level, and by this point you probably have clarified your thinking about the purpose of the system, so would be able to add a title. |
| **Resources** | |
| **Example(s)** | Example: http://www.open.ac.uk/skillsforstudy/example-system-map.php |
| **Challenges & Tips** | |
| **Further Information** | http://systems.open.ac.uk/materials/T552/ |