

PARTICIPATORY METHODS TOOLKIT  
A practitioner's manual

Scenario Building Exercise

## Colophon

Participatory Methods Toolkit. A practitioner's manual  
Method: Scenario Building Exercise

This is an extract of the publication 'Participatory Methods Toolkit. A practitioner's manual', a joint publication of the King Baudouin Foundation and the Flemish Institute for Science and Technology Assessment (viWTA).

The full version of the manual includes:

- Introduction about participatory methods
- General guidelines and tips for participatory methods
- Complete description of 13 participatory methods: 21st Century Town Meeting® ; Charrette ; Citizens Jury ; Consensus Conference ; Deliberative Polling® ; Delphi ; Expert Panel ; Focus Group ; Participatory Assessment, Monitoring and Evaluation ; Planning Cell ; Scenario Building Exercise ; Technology Festival ; The World Café
- Brief descriptions of 50 methods and techniques

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### Layout and printing

Belgian Advertising (B.AD)

### Legal depot

D/2005/2893/19

### ISBN

90-5130-506-0

With the support of the Belgian National Lottery

September 2005

# SCENARIO-BUILDING EXERCISE

## **I. DEFINITION**

Scenarios are narrative descriptions of potential futures that focus attention on relationships between events and decision points.

## **II. WHEN TO USE**

As a rule, scenario construction is particularly useful in situations where the past or present is unlikely to be a guide for the future, in particular where:

- the problem is complex
- there is a high probability of significant change
- the dominant trends may not be favourable and thus must be analysed
- the time-horizon is relatively long.

Scenarios help direct attention to driving forces, possible avenues of evolution and the span of contingencies that may be confronted. Thus they are particularly useful when many factors need to be considered and the degree of uncertainty about the future is high.

The process of backcasting – analysing back from the preferred (or undesired) scenario to the present day, tracing the sequence of critical events and changes – allows people and organisations to develop a strategic plan that will inform their actions as these critical events unfold. This, in turn, allows people to become agents of change rather than being driven by change and to create trends rather than being the victims of trends.

Scenarios methods can provide planners with ‘compass points’ with which to orient thinking about the innumerable possible futures. Policies can be examined in terms of their robustness across a range of possible futures: instead of focusing on the supposedly ‘most likely future’, a balanced range of strategies that may be required in different circumstances can be developed.

The scenario-construction process can also be used to build a common vision among participants. It can thus be used to generate consensus and direction. Especially where involved in workshops, participants will understand better the strategies and policy options needed to build alternative futures. In addition, the processes of establishing images of these futures and how to realise them can facilitate action. Participants will also come to better understand the viewpoints and strategies of others.

Thus the main applications of scenario workshops are to:

- improve long-term decision-making

- motivate change
- generate alternative trajectories for future developments
- improve preparedness for emergencies and contingencies
- guide key choices
- build future-oriented knowledge and action networks
- generate a vision and action-plan for realisation.

### **III. PROCEDURE**

#### **A. Overview**

The preparation for a scenario building exercise can vary extensively. Depending upon the topic(s) being addressed, the amount of information gathering required for well-informed, realistic scenarios can be significant. The length of the pre and post-workshop phases will also be determined by the extent to which the scenario-building process is conducted more in a larger group or by smaller teams (who collect the input of others). In any case, a scenario team is recruited, which then goes through the following steps:

- elicit Views, Insights and Facts.
- identify Focal Issue or Decision.
- list Key Factors in the Local Environment.
- list Driving Forces in the Macro-Environment.
- rank Key Forces & Drivers by Importance & Uncertainty.
- select Scenario Logics.
- flesh Out the Scenarios.
- explore Implications.
- select Leading Indicators & Signposts.
- present Scenarios to Relevant Public.
- generate and Discuss the Options.

#### **B. Realisation**

##### **1. COMPOSE THE SCENARIO TEAM**

The team should be composed of:

- decision-makers (whose mandate or competency is relevant to the focal issue or question)
- persons with a broad range of functions, areas of expertise and (political) perspectives
- creative thinkers.

All members of the team should have open minds and be able to work well together as a team.

## 2. ELICIT VIEWS, INSIGHTS AND FACTS

The team must decide how it wishes to gather the opinions and intelligence needed to prepare the base for the actual scenario building exercise workshop. Many tools are available for preparing this base, including the multiplicity of techniques for analysis briefly described in this publication. Analytical tools commonly used to prepare the base for scenarios include Structural Analyses, Delphis, Régnier's abacus, MACTOR and SWOT analyses. Almost always a certain amount of desk research is necessary to gather relevant information about internal (to the organisation, region, etc.) and external trends, for example from the OECD, economic forecasts, government statistics on demographics, think-tank reports, etc. Such information may be gathered, as required, throughout the entire scenario preparation, construction and analysis process. Usually such information will be useful initially to contribute to the definition of the 'assumptions' upon which the scenarios will be built, also called the scenario logics. Later additional and more specific information can be gathered once these logics have been decided. The main information required includes:

- critical trends, especially very long-term trends that are expected to continue
- factors of change or future-shaping events that could alter even the seemingly most established trends
- the roles of the various categories of stakeholders
- events that can alter the environment in the future.

Individual interviews and/or issue workshops can be used to gather viewpoints and insights that will be useful in identifying the various items in steps II – V. There is no rule about the amount of information that should be fixed prior to the workshop. Thus more or less information may be decided and fixed on the basis of collected intelligence, interviews or workshops or by a simple executive mandate. Inevitably, the outcome will be a result of all of the above. In any case, the process should be made transparent and decisions should always be checked with the commissioner.

For gathering information through interviews, Ringland (2002) provides some questions that can be used to trigger people's strategic thinking:

1. *Critical issues.* Would you identify what you see as the critical issues for the future? Suppose I had full foreknowledge of the outcome as a clairvoyant, what else would you wish to know?
2. *A favourable outcome.* If things went well, being optimistic but realistic, talk about what you would see as a desirable outcome.
3. *An unfavourable outcome.* As the converse, if things went wrong, what factors would you worry about?
4. *Where culture will need to change.* Looking at internal systems, how might these need to be changed to help bring about the desired outcome?
5. *Lessons from past successes and failures.* Looking back, what would you identify as the significant events that have produced the current situation?
6. *Decisions that have to be faced.* Looking forward, what would you see as the priority actions that should be carried out soon?
7. *If you were responsible.* If all constraints were removed and you could direct what is done, what more would you wish to include?

Depending on the nature of the general problem to be addressed, later interviews and workshops may address different aspects and may need additional preparation.

Ringland (2002) notes that three areas of uncertainty very commonly arise:

- globalisation versus regional/localisation
- community values versus individual values
- technology: rate of change or adaptation.

The interviews should be analysed by grouping the major issues, including the above three if applicable. This will reveal different points of view regarding what the 'real problems/issues' are and these will flavour the various scenarios.

### **3. IDENTIFY FOCAL ISSUE OR DECISION**

While the general topic might have been pre-determined, it is almost always too broad. (Alternatively, too narrow questions will be inappropriate to address with this method.) Narrow down the general topic to a specific decision, question or focal issue that is confronting the society, policy makers and/or management. In addition, set a clear time horizon, for example 10 or 20 years. Finally, decide on the scope of the issue, for example the future of the European Union or the future of information technology.

### **4. LIST KEY FACTORS IN THE LOCAL ENVIRONMENT**

List the key factors influencing the success or failure of the decision. Consider the main relevant issues that the decision-makers will need to be informed about when making choices. What are the main criteria of success/failure and what would influence the outcome? These are often microeconomic forces, such as resource availability, patterns of consumption, supply, transportation and other infrastructure aspects, etc.

These factors can be elicited in an extended scenario workshop or separately in individual interviews, focus groups and/or issue workshops.

### **5. LIST DRIVING FORCES IN THE MACRO-ENVIRONMENT**

List the drivers and barriers that will or could affect the key factors. Forces to consider include the 'STEEPV': Social, Technological, Economic (macro), Environmental, Political and Values. In addition, forces such as demographics and public opinion should be considered. One is attempting to identify major trends and breaks in trends and research is usually required to adequately define them.

Also identify 'predetermined' elements of society, aspects of life that are almost completely certain to develop in a

known way. Next, identify 'critical uncertainties'. These can be found by questioning one's own assumptions about the predetermined elements.

These forces can be elicited in an extended scenario workshop or separately in individual interviews, focus groups or issue workshops.

## 6. RANK KEY FORCES & DRIVERS BY IMPORTANCE & UNCERTAINTY

For each of the Key Forces and Drivers, rank:

- its degree of importance for the success of the focal issue or the decision identified
- the degree of uncertainty as to how it will develop.<sup>1</sup>

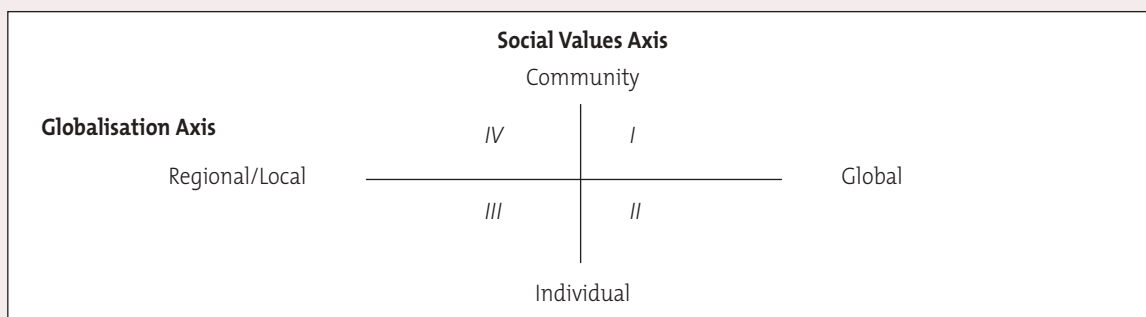
For convenience, use a scale of 0 to 10, where 1 = very certain and 10 = very uncertain. The purpose of this exercise is to identify the factors that are most important and whose development is most uncertain.

Ranking can be done in an extended scenario workshop or separately in individual interviews, focus groups and/or issue workshops.

## 7. SELECT SCENARIO LOGICS

Based upon the rating exercise in step IV, two or three factors must be chosen to provide the 'logics', also referred to as the 'assumptions', of the scenarios, or in other words, the 'axes' along which the scenarios will differ. In order for the scenarios to be useful learning tools, the axes (or logics) must be based upon factors that are inherent to the success of the focal decision or highly important to the development of the focal issue.

For each identified factor, two contrasting aspects are chosen to label the poles of the axis. For example, the factor 'social values' might be one axis, whereby one pole is labelled 'individually dominated' and the other pole 'community dominated'. Similarly, another axis might be based upon the factor 'globalisation', whereby the poles are labelled 'local/regional' versus 'global'. The result would be four quadrants that provide the rationales for four different scenarios, as shown in the figure.



<sup>1</sup> To clarify: here one is not rating how uncertain the effects are that the factor/driver will have on the issue or decision. Rather one is rating how uncertain the future developments of the factor/driver are. For example, if one is quite sure that a pattern of immigration will emerge for an area, then the 'uncertainty rating' will be on the lower end of the scale, say 2.

Thus *scenario I* would depict a society based upon community values and the dominance of global forces, exploring how these factors influence the focal issue or decision. The other scenarios are designed in a similar fashion, such that the logics for each of them are as follows:

<i>Scenario I:</i>	Community/Global
<i>Scenario II:</i>	Individual/Global
<i>Scenario III:</i>	Individual/Regional
<i>Scenario IV:</i>	Community/Regional

Next, consider one or two 'wild cards' that can be added into the scenarios. Wild cards are unexpected – yet plausible – events that have major consequences, such as natural disasters (floods, tsunamis, earthquakes), political upheaval (terrorism, dramatic regime change), demographic trends (population reduction due to disease, migration due to changes in natural resources) and so forth. The purpose of wild cards is to see how adaptable the organisation or society would be under each of the scenarios.

## 8. FLESH OUT THE SCENARIOS

Participants can choose the angle from which they approach fleshing out the scenarios. Traditionally, an analytical distinction has been made between exploratory and normative scenarios (defined below), whereby in practice both exploratory and normative processes are involved in every exercise. Nevertheless, a given exercise may focus more upon exploratory or normative scenarios or a combination of both. Perhaps particularly effective is to first build a small number of exploratory scenarios to identify potential developments, obstacles and opportunities, relationships between factors and choices and long-term consequences. Based upon insights gained from the exploratory exercises, the group can endeavour to create a normative scenario. Then, an action plan can be developed for the attainment (or avoidance) of a particular scenario. This involves 'working back' from the future towards the present, tracing potential sequences of critical events and changes, so that this step is commonly referred to as 'backcasting'.

**Exploratory scenarios** start from the current situation and from past and present trends. Assumptions are made about uncertainties relating to the environment and factors of change, leading to pictures of plausible, possible futures. Some authors refer to these as neutral scenarios, implying that researchers do not make any value judgements about the futures they are describing. However, certain kinds of value judgements are always present, at least implicitly in one's choices of factors, for example.

**Normative scenarios** are constructed on the basis of various images of the future, which may include either feared or desired futures. Then, one or more paths are portrayed as to how one could arrive at, or avoid, that/those future(s). Hence, this process is basically the equivalent of '**backcasting**'.

**TIP:** When constructing exploratory scenarios, it is important to do multiple scenarios in order to highlight the different relationships between the factors under different logics. In contrast, with normative scenarios, often only one 'desired future' is constructed, sometimes as a consensus-building exercise. However, if consensus promises to be difficult, try starting with an undesired future first – it is often easier for everyone to agree upon what they do not want.

While the logics that distinguish each of the scenarios are determined by the scenario's place in the matrix of the most important driving forces, all of the scenarios will describe the same general factors to enhance comparability. Each of the driving forces and key factors listed in steps II and III should be given attention in each of the scenarios.

First, consider how each of these factors and forces might develop under the logics of each scenario. Hence, one scenario might provide the description, 'Schools have metal detectors and armed guards and are locked up outside of school hours', while in another scenario, 'Schools are used by the entire community for 14 hours per day'.

Weave the pieces together in the form of a narrative. The scenarios need to be fleshed out with a storyline that describes how the scenario state evolved from the present. Answer the questions:

- How would we get from here to there?
- What events would need to happen for this scenario to come true?
- What sort of people would characterise the scenario?

Peter Schwartz (1998) identifies some common plots for scenarios<sup>2</sup> :

- Winners and Losers
- Challenge and Response
- Evolution
- Revolution
- Cycles
- Infinite Possibility
- The Lone Ranger
- My Generation

Consider the ways in which different plots might handle the same forces, such as environmental policy. The narrative should recount a sequence of events, expressed in observable terms such as 'The UK joins the European Monetary Union' rather than 'The UK grows closer to Europe'.

The plots often change over time and interact with each other. Beware of assuming that any given plot will continue 'in an unbroken line', without any human response to developments. Good scenarios are both plausible and surprising. Consider adding in one or more of the 'wild cards' and describe how the event affects the other factors in each scenario.

During the fleshing out stage begin to note and quantify (when applicable) early indicators that distinguish the development of each scenario. These can be described in the scenarios themselves and can also later be used to 'monitor the future'.

<sup>2</sup> For descriptions and examples of these plots, refer to Schwartz (1998).

Give each of the scenarios a **name** that is concise, vivid and memorable. The name should be revealing of the scenario's logics in that it distinguishes a given scenario from the logics of the others.

**TIP:** Beware of ending up with three scenarios, which may be perceived as 'most likely', 'middle' and 'most unlikely' forecasts. In general, avoid assigning probabilities to the scenarios; one risks neglecting an unlikely scenario that would have high impact if it were to unfold.

## 9. EXPLORE IMPLICATIONS

Consider the implications of each scenario for the focal issue or decision. What vulnerabilities have been revealed? Is the decision or strategy robust across all scenarios or only in one or two? If a decision looks appealing in only one of the scenarios, then it is considered a high-risk gamble, particularly if the organisation has little control over whether or not the scenario will be realised.

Explore how the strategy can be made more robust.

## 10. SELECT LEADING INDICATORS & SIGNPOSTS

Identify events or characteristics that would be indicative that a particular scenario is coming to pass. These indicators are early signals that should be scenario-specific, not common to all or several, so that the various scenarios can be distinguished from each other. They should be concrete rather than general or ambiguous, so that they can be monitored by the government, organisation or company. For example, signs that the economy is changing from industrial to more technology-based might be detected in help-wanted advertising, changes in union memberships or the emergence of new periodicals.

The purpose is to be able to detect various actual developments as early as possible so that the strategies can be adapted appropriately.

## 11. PRESENT SCENARIOS TO RELEVANT PUBLIC

Commonly the scenarios and analyses are presented to the relevant public in the form of written reports. However, some scenarios have been presented using highly creative venues. For example, one city created a 'Villa 2015', with a room for each scenario. All of the city's inhabitants were sent a postcard picturing the four scenarios, which invited them to visit Villa 2015. Visitors to Villa 2015 were asked to express their preferences in a questionnaire before leaving and the city planners subsequently used the information gathered. Another innovative idea came from a company that created an online interactive environment to feed the scenarios back. A further possibility would be to present the scenarios in short theatrical skits.

## 12. GENERATE AND DISCUSS THE OPTIONS

Insights generated during the scenario-constructing process can be used to inform subsequent decision-making. Ringland (2002, Section III.7) discusses one possible method to move from the scenarios to plans. He suggests the following steps:

- *Strategic analyses.* Perform a strategic analysis of one's own organisation as well as existing and potential future competitors. The analysis can be conducted with well-known tools such as SWOT analysis, PIMS, portfolio analysis, critical success factors, business segmentation, etc. Refer to the list of analytical tools, provided in this manual, for further possibilities.
- *Scenario creation.* In the scenario creation process, future developments are described that could affect the organisation.
- *Strategy finding.* Scenarios can be used in at least two ways to help develop strategies. First, they can be used to explore the environments in which the community must most likely operate in the longer term. Thus they can guard against the pitfall of designing a strategy for the year 2050 that would have been suitable for the world as it was in the year 2004 (but is no longer relevant).

Review the opportunities, threats and their related options for action that have been determined in the different scenarios. Managers must decide whether to base the strategy on one or multiple scenarios. A strategy based upon one reference scenario is called 'strongly focused', while one based upon multiple scenarios is called a 'future-robust plan'. In either case, the main question is 'What shall we do if a certain scenario comes true?' and not 'What will happen?'

Create a matrix that lists the various options for the organisation. Rate the suitability of the options for each of the scenarios. Group the options into strategies, depending on whether they are part of a future-robust strategy, a partly robust strategy or a focused contingent strategy.<sup>3</sup>

- *Strategy formulation.* Once the strategic orientation has been decided upon, concrete measures must be determined to bridge the organisation from the present to its objectives. These objectives may be described in the organisation's mission statement. However, as a consequence of insights gained from the scenario-construction process, members of the organisation may wish to re-formulate the mission statement, in full or in part. Alternatively or in addition, previous goals and strategies seen to be in accord with the mission statement may be revised.

In deciding how to build the bridge from the present to the stated objectives, the organisation can have various approaches. Ringland (2002) describes some typical types of scenario-supported strategic approaches including:

- Reacting to recognizable trends
- Managing future risks
- Energetically using future chances
- Staying flexible
- Developing and reaching own visions.

Most likely, a mix of these will be used.

<sup>3</sup> Refer to Ringland (2002, p. 188) for an example of a scenario options matrix and further explanation.

#### **IV. RESOURCE CONSIDERATIONS (TIME, BUDGET)**

A very minimum of two days is required to conduct a scenario building exercise from the point Step III/IV through fleshing out the scenarios. This is only feasible if the focal question or issue is already very well defined and all information required for deciding the key drivers and main factors of uncertainty has been gathered and understood by the participants.

Once the scenarios have been fleshed out, additional time is needed for analysis and strategy building. For good results, it is advisable to provide at least three days for the actual scenario-construction workshop and a total of six months for preparation (intelligence gathering interviews, determining the focal question), analysis and strategy-building and dissemination.

At its optimum, and especially when this method is used for development purposes, the procedure should be seen as a continuous, iterative process that involves:

- the continuous development, refinement and adaptation of the scenarios
- the use and interpretation of the scenarios in new plans and programmes
- the implementation of existing plans and programmes
- the maintenance and evolution of the knowledge and action networks.

Scenario methods are more laborious, costly and time-consuming than simple 'planning'. However, some authors emphasise that, given the propensity of traditional forecasting and planning to fail in uncertain times, the additional delay and cost can be justified if they result in a more durable plan.

The following items listed are the main budgetary items in a scenarios workshop:

- Personnel
  - project manager
- facilitator(s)
  - honorarium to participants, if applicable
- Travel
  - facilitator(s)
  - participants
- Accommodation
  - facilitator(s)
  - participants
- Food
  - meals and refreshments for each day of workshop
- Recruitment and Promotion
  - mailings to recruit participants
  - promotion for public presentation of scenarios
- Communications

- costs for eliciting opinions (depend upon methods used)
- costs for public presentation of scenarios (depend on format)
- printing of final report
- Facilities
  - location for workshop
- Materials and Supplies
  - paper and pens
  - lap-top Computer
  - software for calculating and plotting and for word processing
  - (overhead) projector
  - large sheets of paper to post ideas
  - tape or tacks
  - bold markers

## **V. ADDITIONAL BEST PRACTICES AND POTENTIAL PITFALLS**

Care must be taken not to generate the impression that the scenarios developed are the only possible futures. In reality, the future is likely to be a mix of the various elements in the scenarios, as well as ones not considered at all.

Sometimes the output is that one scenario is seen as the ‘most likely’ scenario and the others describe minor variations on that theme. For this reason, some facilitators rule out ‘business as usual’ scenarios.

Some users may find it challenging to grapple with multiple plausible futures, which is why most practitioners recommend developing only three to five scenarios in a single workshop. However, this risks limiting the range of dynamics and possibilities that are considered. For this reason, it can be particularly useful to have some time devoted to examining ‘wild cards’.

When presenting the scenarios, it is essential to carefully consider one’s audience. Scenarios that only describe broad generalities, lacking supporting analysis and quantification, are not operational. Thus policymakers see them as not useful – though they may be appreciated by the general public for giving a taste of the future. In contrast, scenarios presented in extreme technical detail and with great formality may prove too difficult for ordinary readers to assimilate.

### *Variations:*

A common variation of the process is to begin with prepared scenarios. One possibility is to use broad scenarios, describing possible developments of a region and then to use the workshop time to construct more specific sector scenarios, based upon the same logics/assumptions. Alternatively, one can begin with specific (sector) scenarios created for another region or organisation and adapt them to one’s own context. Any noted differences may prove very useful to long-term planning.

*Potential limitations:*

As a social process, some limitations to scenario workshops (and all prospective methods) include:

- The 'Zeitgeist' problem: The group dynamics can affect the outcome of the deliberative process such that different exercises have similar results. This happens when different groups focus on the same small range of currently dominant social and cultural themes.
- The 'opacity of context' problem: This is common when participants become too focused on particular aspects of a certain sector, such as technology, but omit to fully evaluate the social, economic and political implications of the associated sector changes.
- The 'event evaluation' problem: People tend to overestimate the likelihood of low-probability events and underestimate the probability of likely events. There is an equal tendency to distort the representativeness of events, essentially by focusing on striking but basically irrelevant details, which is liable to undermine the viability and usefulness of future scenarios.

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