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Participative methods and consensus theory

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Abstract

The present Technical Report contains a concise analysis of some **participatory methods** and a discussion of the **method of consensus** as a formal tool for decisionmaking.
The treatment is kept at an informal and colloquial level with the aim to be precise and concise. The main source is Elliot et al. (2005) but other sources are used and will be mentioned in the right places.
This Technical Report relies mainly on classical results, so that it may be considered as a real primer on these topics, but contains also novel material and results, essentially in section 4 and in the Appendix.
Reports of errors and inaccuracies are gratefully appreciated.

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1 Introduction

The present Technical Report (TR) is composed of three sections besides this and an Appendix:

(1) in section 2 we present an analysis of some of the major participatory methods;

(2) in section 3 we present a discussion of the consensus method as a tool for formal decisionmaking;

(3) in section 4 we examine the possibilities of cross fertilization among the methods we examine in section 2 and between the contents of sections 2 and 3;

(4) in the Appendix we discuss with a certain detail a law about participation from "Regione Toscana" and make some comments on the use of one of the participatory methods, the **electronic Town Meeting**, for its [partial] definition.

The analysis of the participatory methods is essentially based on Elliot et al. (2005) whereas the analysis of consensus method relies on Butler and Rothstein (2004) and for the cross fertilization section we refer to Pareglio et al. (1999) where a general framework for the design of policies for the solution of environmental problems is presented in details and analyzed with the help, also, of a set of case studies. As a general reference another important source is Kluver et al. (2000) where the results of a project for the assessment of technologies are presented and discussed in detail.

2 Participatory methods

2.1 Introduction

The first thing to clear up is what we mean with **participation** and which are its main features.
Participation is not a point event and entails a process that may be more or less formalized as a method but that is anyway characterized by a start, an end and a certain number of intermediate steps or phases. In this TR we are going to consider only well formalized methods and so methods with a well defined structure and features.
A **participatory method** may be used whenever there is the need to involve a set of participants into a process. In this case we are interested in its use within the more general framework of **decision process**. We note, indeed, that a decision may be taken in a full autocratic way or as a result of some voting procedure with very little participation. We are however interested in decision processes that make heavy use of participatory methods.
From our perspective, participation can be seen as a multidimensional issue that involves:

- **time** or from when on, during the decision process, a participatory method is used;
- **level** or at which level of the decision process a participatory method is used since a decision process involves several decision levels in reciprocal hierarchic relations;
- **breadth** or how many bearers of interests (usually called **stakeholders**) are involved in the process.

As to the **time** (see also van der Belt (2004) and Vennix (1996)) we have a range that spans from an **early use**, if the method is used from the very start of a decision process, to a **late use** if the method is used near the end of a decision process.
In the former case the participants may have a greater chance to influence the decision process when the alternatives have not yet been fully devised and defined so that their contribution may be really valuable and effective.
In the latter case they are involved in the process when the hard work has been done and only few adjustments are possible so that the contribution of the participants to the process is of little importance and hardly effective. In this case decisions have already been taken elsewhere and participants may only make some small refinements. Of course intermediate times are also possible. As a general rule we have that the potential effectiveness of participation increases from the late end to the early end of the range.
As to the **level** (see also van der Belt (2004) and Vennix (1996)) we mean the level of involvement of the participants. In this case we have a range that spans from **low** to **high**. When the level is low the participants only provide input data to the decision process through interviews or questionnaires whereas when

the level is high the participants are heavily involved in the decision process so that they:

1. participate in the definition of models of a problematic situation (van der Belt (2004) and Vennix (1996));
2. contribute in the devising of possible alternative solutions;
3. participate in the evaluation of the possible policies aiming at the solution of a given problem.

As to the **breadth** (see also van der Belt (2004) and Vennix (1996)) we have a range that spans from **narrow** (if the method is directed to small group of participants) trough **wide** (if a method is accessible to some hundreds of participants) to **open** (if the constraint to the number of participants is due to practical rather than theoretical reasons).
After these premises (see Elliot et al. (2005)) we devote a certain number of sections to the attempt of defining:

(1) what do we mean for a participatory approach;

(2) who can use a participatory approach and why;

(3) when a participatory approach is appropriate;

(4) which, among the many available methods, is best suited to our needs;

(5) how a participatory method is implemented.

2.1.1 What we do mean for a participatory approach

A **participatory approach** within a **decision process** is a way to actively engage a more or less wide group of "representative" people in the process of undertaking a decision about a common issue.
We have to define what we mean with "representative". We cannot give a general definition without taking into consideration the nature of the method that is used to implement the participatory approach. Within this perspective we have different methods for different involved categories of participants.
We can characterize the participative methods as suitable for the participation of:

1. anyone, without any restriction;
2. a mixture of stakeholders and citizens;
3. a randomly selected sample of a population;
4. experts.

The *experts* have expertise that is related to the issue at the center of the decision process and possibly related fields. From this set we exclude the experts in the decision process and all the experts that enter in a decision process as supporting figures (Vennix (1996), see also section 3). Admitting to a participative method only the experts my cause an exclusion feeling among citizens and/or stakeholders and this may cause the rising of obstructionisms in the final planning phase as well as in the implementation phase.
The **stakeholders** are a subset of the **citizens** and precisely those that are [negatively] affected in some way by the issue that is at the center of the decision process. The characterization of the set of the stakeholders is not always straight and difficulties-free. It is possible to show how through a well planned selection of the stakeholders we can bias the decision process in a given direction. If, for instance, we widen the area where the stakeholders reside to include a bigger number of those who benefit from a project that those that are damaged by it it is easier that the decision process will be in favor of that project whereas, is we shrink the area where the stakeholders reside so to include only or many of those that are damaged by the project, we get the opposite outcome.
As to the random selection we remark the following potential drawbacks:

1. if the participation is not rewarded is some way we surely have a high defection rate;
2. even if the participation is rewarded we may have poorly motivated participants;
3. it is hard to fully cover a fuzzy area of stakeholders through a random selection.

A participatory approach (see Elliot et al. (2005)) may be also characterized depending on:

(1) the phase of a decision process during which it is used (see section 2.1.2);

(2) the level of the participation.

As to (2) we note (Elliot et al. (2005)) how participation may be:

(l1) unidirectional;

(l2) bidirectional;

(l3) active.

In the case ($l1$) we have a simple transmission of information where the addressees of such information have no real power within the process and must appeal to an outer authority to influence it. Within our framework this can be hardly meant as participation.
As to ($l2$) we speak of **consultation** (Elliot et al. (2005)) where there is one party that drives the process and frame the issues over which the other party

can express his opinions. This process is used in Vennix (1996) for the definition of a preliminary System Dynamics model of a problematic situation to be addressed in the decision process. In this case it is possible to use:

1. face-to-face or telephonic interviews,
2. questionnaires,

with the good sense of allowing people to express their opinions without too strong biases but with the difficulty to interpret and frame the answers to open ended questions. In this case we can speak of a **limited participation** if the collecting of information is performed at a very early stage of the decision process and a **very low participation** if that collecting is performed at a very late stage only to get a ranking or a ratification of already taken decisions. We note that this is not the case of Vennix (1996) where the preliminary model is simply a way to provide a concrete starting point to the decision process and is destined to be questioned and heavily modified.
Only in the last case ($l3$) where there is a **wide** and **diversified** involvement at early stages of a decision process we can speak of real participation. In this case (Elliot et al. (2005)) we have that citizens, stakeholders, politicians an experts are engaged in the decision process with real possibilities of influencing it so that all such parties can frame the process at a certain extent.

2.1.2 Who can use a participatory approach and why

Participatory approaches have both **opponents** and **supporters** and, in many cases, the "reasons in favor of" of the latter are seen as "reasons against" from the former.
Among the **opponents** we usually find:

(o1) politicians,

(o2) local authorities,

(o3) experts,

(o4) design and implementation firms.

In many cases the opposition is not sharp but fuzzy and grounded on reasons that vary depending on the category to which the opponents belong.
In this way **politicians**, ($o1$), may fuzzily oppose to the use of participatory approaches since they feel to be legitimated through elections and do not feel the need of any other interaction with the voters. This type of objections disregard the following facts:

1. a politician has been elected from a part of the voters among which there may be none of the current stakeholders;
2. a politician may have been elected on a program that does not either mention the current issue so there is no possible claim of mandate;

3. the problems to be addressed may span over longer periods of time and wider areas that those covered by elections (both as duration of a legislature and width of a constituency);

4. the stakeholders may not have been aware of the presence of an issue in the political agenda but in vague terms and, when the issue become more detailed, may wish to debate about it.

Other objections include the lengthening of the decision processes, the increase of the costs and the fear of obstructionisms and delegitimation. Such objection may have some foundation if we consider only the decision process but if we include also the implementation phase (and so the overall process) we may obtain shorter, cheaper and more legitimated implementation phases owing to less conflicts and a lower obstructionism level from the stakeholders.
Similar objections may arise from **local authorities**, ($o2$), with the aggravating of stricter electoral links with local voters that should favor a more collaborative interactions between local politicians and their voters. In this case there is a stronger feeling of having been delegated, through elections, to the administration of a territory so that comments and information are welcome but any other form of participation is seen more as a hindrance, a field invasion, than a help.
On their turn, **experts**, ($o3$), find usually hard to confront with non experts since they feel frustrating this relation and fear that the involvement of non experts in the design process can lead to poorer designs. In this way they tend to discard the presence and relevance of non formalized expertises and the fact that the interactions with non experts may force them to clarify the principles of their design practice and lead to better designs. Another side effects of the involvement of the stakeholders in the design of solutions (as it occurs, for instance, with **Focus Group**) is that the latter are more bent to accept the outcome of the design process, have a stronger feeling of ownership and are less intentioned to make opposition to it.
Last but not least, **design and implementation firms** may claim to have a full legitimation from the politicians and the local authorities, on one hand, and, on the other hand, from the experts through a wide variety of technical instruments and authorizations so that they usually do not feel any need of participatory processes since these cause a lengthening of the processes and an increase of the costs, objections we have already faced and that find the same counter objections.
Among the **supporters** we can enumerate:

(s1) stakeholders,

(s2) Non Governmental and Environmental Organizations;

(s3) opposing experts,

(s4) politicians,

(s5) trade unions and other similar organizations.

We note that **stakeholders** are usually against an issue (and are backed up by partisan experts and both Non Governmental and Environmental Organizations) but as a reaction there may be also the "revelation" of groups of supporting stakeholders. An example of this contraposition of supporters and opponents has occurred recently in Florence for the implementation of a set of lines of a "tramvia" (city railway lines) where it has given rise to a set of competing committees and has been resolved in some way with a consultive referendum that has resulted void owing to the low participation level. If this occurs there is a polarization of the decision process that, traditionally, is resolved through the use of a referendum but that can benefit more from the adoption of a participatory method.
As to the **opposing experts** we note how they usually contrast with supporting experts on formalized areas of expertise such as engineering, economics, politics but also statistics, computer science and related fields. In this way they keep the debate at a high controversial level where opposite stands face each other until a third party, usually of political nature, breaks up the stalemate allowing one of the two groups of experts to result as the winner.
As to ($s4$) we include in this category the politicians that are in opposition and that may declare to be against an issue only to better their political position whereas trade unions and other similar organizations may well support the actions of the stakeholders but also contrast them since these are thought to hamper the economic development and foster the economical crisis.
We remark how the opposition may arise not only from the stakeholders but also from some experts as well as from some Non Governmental and Environmental Organizations but that it must take the root in the action of the stakeholders so to get a higher possibility of success.
As to the reasons why to adopt a participative process we may follow Elliot et al. (2005) and state that they are grounded on:

1. a normative perspective,
2. a pragmatic perspective.

From a **normative perspective** (Elliot et al. (2005)) the use of a participatory approach makes a decision process more democratic since it allows the expression and evaluation of all values and opinions in a public policy debate. Moreover this adoption allows a better analysis of the content of a decision process, a stricter integration between representative democracy (as based on the election of political representatives) and other forms of democracy, participative and direct, as implemented through referenda or assemblies.
From a **pragmatic perspective** (Elliot et al. (2005)) the adoption of a participatory approach (see also Appendix A) allows the addressing of shared problems and issues through a strong link between elected politicians and the citizens/stakeholders so to increase the trust between the two groups and the legitimacy of the politicians' decisions.

2.1.3 When a participatory approach is appropriate

A participatory approach can be adopted in all cases where there is the need to take a collective decision about a shared issue. To make a toy example let us consider a family of six persons (father, mother, two children and two grandparents). The choice of the period and place for a long holiday may benefit from a participatory approach (a sort of Focus Group, see further on)as well as the choice of a new house (whether to buy it or to rent it, in which city and in which part of that city) whereas the choice of some personal feature should be modifiable by a member of the family without any collective involvement of the other members. This seemingly neutral observation involves the Sen's paradox of **minimal liberalism** (Saaty (1980)).
If all this is true there are issues that can benefit form the choice of a participatory approach more than others. Among those issues we mention (citations from Elliot et al. (2005), page 12):

1. issues that involve fundamental values and principles and require ethical, social and cultural study;
2. issues of political nature that "call for a combination of public awareness, learning, a search for solutions and emotional or moral acceptance of the eventual decision";
3. "public policy choices that will rely on the precautionary principle or the weight of evidence";
4. "underlying values and principles that must be clarified before detailed proposals or risk management options are brought forward";
5. "a clearly defined set of options or proposals that support the search for consensus or innovative solutions";

To these we add issues where:

1. the benefits for a wide portion of citizens are obtained at the expense of high damages for a smaller group of stakeholders over a more or less wide area for more or less long periods of time;
2. we have one party that has some issue in the agenda and want to force its acceptation from a group of stakeholders and/or from other parties;
3. we have a recognized problem to be solved but a set of competing and incompatible solutions among which one must be chosen but among the proponents of each solution we have hierarchical and not peer-to-peer relations.

2.1.4 Which method is best suited to our needs

As will be clear from section 2.2 on, the choice of a participatory method can be rooted on a certain number of criteria that in Elliot et al. (2005) are assumed to be the following (and that are the basis for the set $\mathscr{P}$):

(c1) **objectives**,

(c2) **topic**,

(c3) **participants**,

(c4) **time**,

(c5) **budget**.

The **objectives**, ($c1$), are the reasons why a participative approach is carried out usually with the participants facing **multiple objectives** that can be classified according to at least two continuous dimensions (Elliot et al. (2005)):

(c1a) aspiration/motivation, from **advising** (so to reveal stakeholders' knowledge, values and ideas as an input of the decision-support process) to **democratization** (so to allow the participants to create the options that affect the policies);

(c1b) targeted output, from **mapping out diversity** (so to reveal all the different knowledges, values and ideas as an input of the decision-support process) to **reaching consensus** (so that the group can reach a collective decision on an issue).

In this case we can state that the highest point of participation occurs in the case of the pair **democratization, reaching consensus** whereas the lowest point occurs in the case of the pair **advising, mapping out diversity**.
The **topic**, ($c2$), is characterized as a function of the following four parameters:

(c2a) **knowledge**, or level of general knowledge about an issue that is owned by the participants to the method;

(c2b) **maturity**, or extent of development of opinions from the participants or legislations from a society about an issue;

(c2c) **complexity**, or capability of a method to handle complex or highly technical issues;

(c2d) **controversy**, or level of polarization among contrasting opinions and hardness to reach a consensus.

We note that these four criteria (or parameters, see section 2.2) are characterized by:

- a substantial independence if referred to an issue since we can imagine a controversial issue that is faced at an emotional level (limiting case) and so without either a high level of knowledge or a high maturity among the participants to a participative approach;

- a substantial dependence if referred to the methods since from the structure and the features of a method we can derive the types of issues (as defined by assigning values to such parameters) a method can deal with.

As to the **participants**, ($c3$), they represent who can attend a participatory method as a function of the available time and budget. As the categories we can single out (Elliot et al. (2005)):

(c3a) citizens either on an individual basis or as organizations;

(c3b) stakeholders also represented by Non Governmental or Environmental Organizations;

(c3c) private industries;

(c3d) interests or professional groups;

(c3e) experts and their professional organizations;

(c3f) politicians and local authorities as addressees of the outcomes of a participatory process.

The **time**, ($c4$), defines the duration of both the whole process and the closing event and include all the activities that are carried out before that event, for its preparation, and after the event, essentially to publicize its outcomes. The **event** is the key point of a participative process and can last from a few hours to some days. In the course of the event its participants try to accomplish the goals for which a participative process has been set up and that are method dependent (see section 2.2).
Last but not least the **budget**, ($c5$), that represents the needed funds for both the event and the whole process and that limits in some way:

1. its possible durations (both of the event and of the whole process);
2. those who can be involved;
3. the type of method that can be actually chosen.

We are going to deal in greater detail with each of these parameters in subsequent sections.

2.1.5 How a participatory method is implemented

The last point we have to describe briefly is how a participatory method is implemented.
The implementation in general requires a certain number of phases and steps (so we have no monolithic method) and different techniques that can be classified as:

1. analytical techniques,
2. facilitation techniques,
3. real out and out methods.

In this TR we are going to deal only with **real out and out methods**. In this case:

1. the process is made of multiple steps and techniques;
2. the process needs a plan that must be accurately designed and carried out having care of all the details, including budgeting and timings;
3. the process has a specific societal outcome (such as the creation of a network or the building of some permanent capacity) or a product (such as a set of recommendations or a set of future scenarios or an informed opinion or something like that).

As to the other two types we only remark how **analytical techniques** are used to facilitate the analysis of either the problem or the issue at hand whereas **facilitation techniques** are used to facilitate the interactions among the participants in a participatory process. Something more about the facilitation techniques may be found in section 3.

2.2 The relevant participatory methods

The present section 2.2 essentially refers to Elliot et al. (2005) (we are going to refer also to Table 1 throughout the whole section 2) and describes, in a comparative way, the following participatory methods that cover a wide spectrum of possibilities without being exhaustive:

(1) 21st Century Town Meeting;

(2) Charrette;

(3) Citizens Jury;

(4) Consensus Conference;

(5) Deliberative polling;

(6) Delphi;

(7) Expert Panel;

(8) Focus Group;

(9) PAME[1];

(10) Planning Cells;

(11) Scenario building exercise;

(12) Technology Festival;

(13) The World Café.

[1]PAME stands for Participatory Assessment, Monitoring and Evaluation.

n^0	k	m	cp	co	*d_event*	*d_total*	cost
1	+	+/-	+	+/-	[1-3]	12	4
2	+/-	+/-	-	+/-	[1-5]	[2-3]	3
3	+/-	+/-	+/-	+	3	[4-5]	4
4	+	+/-	+	+	6	[7-12]	4
5	-	+/-	-	+/-	1	8	4
6	-	-	+	+/-	variable	variable	[1-3]
7	-	-	+	+/-	variable	variable	2
8	+/-	-	m	*/-	[1/12-1]	1	1
9	+/-	+/-	+/-	+/-	variable	variable	variable
10	+/-	-	m	-	5	5	4
11	-	-	+	+/-	[2-5]	6	[1-3]
12	-	-	+/-	+/-	[1-2]	[6-12]	4
13	+/-	-	-	+/-	[1/6-1]	1	1

Table 1: *Part of the Table from Elliot et al. (2005), page 27*

Legenda of Table 1:

n^0: identifier of a method from the above list,

k: level of knowledge about the center issue,

m: level of maturity about the center issue,

cp: level of complexity of the center issue,

co: level of controversiality of the center issue,

d_event: duration of the closing event in number of days or fraction of a day,

d_total: duration of the overall method in months,

cost: cost of the method on a scale from 1 to 4.

Other details in the text or at page 21 of Elliot et al. (2005).

Those methods form the set M. Every method of such a list has its own objectives. We can try to group the methods using a small set of keywords that describe at the best every method.
In this way we have the following relationships between keywords and the related methods:

(k1) **consensus**: Charrette, Consensus Conference;

(k2) **decision, deliberation, debate**: 21st Century Town Meeting, Citizens Jury, Deliberative polling, Technology Festival;

(k3) **experts**: Delphi, Export Panel;

(k4) **reasoning**: Focus Group;

(k5) **evaluation and learning**: PAME, Planning Cells;

(k6) **generation**: Scenario Building Exercise, The World Café.

This classification shows mainly the breadth of the areas covered by these methods. If we decide to use a representative verb to categorize the methods we get:

(v1) **engage**: 21st Century Town Meeting;

(v2) **generate, provide**: Charrette, Citizens Jury, Consensus Conference, Technology Festival, The World Café;

(v3) **get**: Deliberative polling;

(v4) **expose**: Delphi, Focus Group;

(v5) **synthesize**: Expert Panel;

(v6) **evaluate and learn**: PAME, Planning Cells;

(v7) **plan**: Scenario building exercise.

Again this classification allows us to assert that the listed methods can be used for a wide variety of aims. It stands to reason that the objectives alone cannot be used to fully characterize any of the listed methods.
We remark how it is obvious how we cannot describe each method in full detail, owing to space constraints, so that we decided to examine and compare the methods essentially on the basis of some qualitative parameters such as (Elliot et al. (2005)):

(p1) type of the participants;

(p2) duration;

(p3) cost;

(p4) characteristics of the topic.

As to the **characteristics of the topic** for which a participative tool is used we are going to use the following parameters (Elliot et al. (2005)):

(p4a) knowledge;

(p4b) maturity;

(p4c) complexity;

(p4d) controversiality.

The parameters related to the topic aim at framing it according to four qualitative dimensions where possible values are:

1. $+$ to mean "a lot of" or "most" or "high" depending on the parameter;
2. $-$ to mean "little" or "least" or "low" depending on the parameter;
3. $+/-$ to denote the union of $+$ and $-$;
4. m to denote an average value between $+$ and $-$.

It is obvious how such parameters are more suitable for the characterization of sets of [more or less] homogeneous elements than for the rankings of those elements over either ordinal or cardinal scales. From what follows it will be clear how this is true also for the other parameters ($p1$), ($p2$) and ($p3$) though **cost** can be used also to devise an ordinal scale and **duration** a ratio scale (and so a cardinal scale).

2.2.1 The type of the participants

As **participants** we mean the persons who actively attend the process defined by every method and are involved in it so to take decisions about the topic of the method. We define such a topic the **center issue**. In this way we exclude all the figures that act as supporters within each method.
From this perspective a method may be addressed to:

(t1) every category or anyone;

(t2) a qualified subset of a population;

(t3) experts.

Among the methods we examine in this TR only two (**Delphi** and **Expert Panel**) are specifically designed for experts as participants whereas all the others are accessible to a more or less wide portion of a population.
Of these methods we have:

1. *Focus Group* and *PAME* are mainly suitable for stakeholders;
2. *Citizens Jury* and *Consensus Conference* are mainly suitable for a small group of citizens, from 10 to 30, chosen at random;
3. *Deliberative polling* is suitable for a small representative group of the population;
4. *Charrette* and *Planning Cells* are suitable for a group of average citizens that are selected so to be representative of a given population affected by the center issue.

The remaining four methods are suitable for anyone. We note that this feature may be an obstacle since in any way it is necessary to select a balanced set of participants so to avoid that the whole process is biased from the very start.
Besides these types of participants many methods requires one or more set of consulting participants. Among these methods we list:

1. *Charrette* where experts and special interests groups provide input to the decision process;
2. *Citizens Jury* where experts, stakeholders and politicians provide input to the decision process;
3. *Consensus Conference* where selected experts provide input to the decision process;
4. *Planning Cells* where experts and stakeholders provide input to the decision process.

2.2.2 The duration

The parameter **duration** is referred to the duration of the whole participatory process (**d_total**) and to the duration of the closing event (**d_event**). Both durations are measured either as an interval or as a single value or as a generic value labeled as **variable**.
According to this parameter the set M can be divided in two disjoint subsets with experts oriented methods (*Delphi* and *Expert Panel*) and *PAME* in a subset M_1 and all the others in the other subset M_2. Elements of M_1 are characterized by **variable** durations **d_total** and **d_event** whereas for those of M_2 we have that:

1. duration **d_event** may span from a few hours (*The World Café* and *Focus Group*) to three weekends (six days) for *Consensus Conference* with an **average value**[2] in the range $[2, 3.2]$ days;
2. duration **d_total** may span from one month to one year with an **average value** in the range $[5.2, 6.5]$ months.

Among the *quick methods* (see further on) well suitable whenever there is a strong urgency on the deliberation process we list[3]:

1. *Charrette*, $([1, 5], [2, 3])$;
2. *Focus Group*, $([1/12, 1], 1)$;
3. *The World Café*, $([1/6, 1], 1)$.

[2]Such a range is evaluated by taking the arithmetic average of the lower bounds and the arithmetic average of the upper bounds. If for a method we have only one value we suppose that the lower and the upper bounds are coincident.

[3]We give two parameters, possibly as two ranges, for each method, the first, measured in days, is the value **d_event** whereas the second, measured in months, is the value **d_total**.

We note that the limiting value is **d_total** or the total time of the process, from its very start from its conclusion so that we define a method as quick if its **d_total** is at the most equal to three months. If the value **d_total** is in the range $[4, 6]$ we say that the corresponding method is of *moderate duration* whereas if **d_total** is greater than 7 months we define a method as *long lasting*. Among the methods of *moderate duration* we have:

1. *Citizens Jury*, $(3, [4, 5])$;
2. *Planning Cells*, $(5, 5)$;
3. *Scenario Building Exercise*, $([2, 5], 6)$;

whereas the set of *long lasting methods* includes:

1. 21st *Century Town Meeting*, $([1, 3], 12)$;
2. *Consensus Conference*, $(6, [7, 12])$;
3. *Deliberate Polling*, $(1, 8)$;
4. *Technology Festival*, $([1, 2], [6, 12])$;

We remark that the parameter **d_event** does not characterize a period full of activities but the lapse of time between the very first event of a method and its very last event. In many cases the method definitions are enough flexible so that some degree of compression is achievable though, of course, it is almost impossible to take a method that requires one year and compress it so to have it last one month. Generally the converse is more feasible so that, if it is needed and it is agreed on by all participants, a method that should span over one month may be widened to more than one month for the needed period of time.

2.2.3 The cost

As to the cost of every method in Elliot et al. (2005) it is used an ordinal scale with the following values:

1 to mean that the method is inexpensive;

2 to mean that the cost of the method is moderate;

3 to mean that the method is expensive;

4 to mean that the method is very expensive.

Such ordinal scale allows us to state that a method is more expensive than another or that two methods are equally expensive but not that instead of a method ranked 2 we can implement two methods ranked 1. To do that we would need a cardinal ratio scale.
From the table of Elliot et al. (2005), page 27, we have that six of the methods

(21st *Century Town Meeting*, *Citizens Jury*, *Consensus Conference*, *Deliberate Polling*, *Planning Cells* and *Technology Festival*) are very expensive (owing to their durations, the range of their objectives or their intrinsic complexity) whereas *Charrette* is expensive since its objective is the generation of consensus and the formation of an action plan. These features assimilate this method to the processes of Agenda 21 (Pareglio et al. (1999)).
Experts oriented methods (*Delphi* and *Expert Panel*) are ranked as, respectively, moderately expensive and from inexpensive to expensive, with an "average" of moderately expensive. This may be surprising and deserving of further comments (see also section 2.5).
Expert Panel is a method of moderate cost because in it experts are involved in a process of variable duration for the synthesis of inputs on a specialized topic and the definition of recommendations. It is supposed that each expert gives his input to the process and the output of the process is a set of shared recommendations.
The other expert oriented method (*Delphi*) has a ranking from inexpensive to expensive owing to its wider spectrum of objectives since it involves the exposition of options and opinions in a multi stage process of progressive refinement.
A method of comparable cost with Delphi is *Scenario building exercise* which is open to anyone and whose durations are bounded.
The cheapest methods are:

1. Focus Group owing to its short durations (1 month and from 2 hours to one day respectively) and its narrow objectives (expositions of different opinions on an issue and the reasons why they are held);

2. The World Café for similar reasons: duration of 1 month and from 2 hours to one day respectively and objective the generation and sharing of ideas.

Only *PAME* among the non experts oriented methods has a cost that is declared **variable**.

2.2.4 The parameters of the topic

We can now examine our methods according to the parameters that characterize the topic. As we have already seen, such parameters define:

1. the level of **common knowledge** among the participants;

2. the level of **maturity** of the participant about the center issue;

3. the level of **complexity** of center issue;

4. how much a center issue is **controversial.**

Those parameters assume values in a finite set $\{-, m, +/-, +\}$ whose elements have the meanings we have seen in section 2.2.
As to the need of an a priori **common knowledge** among the participants we have that it is needed in only two cases (21st *Century Town Meeting* and

Consensus Conference) whereas six of the other methods (*Charrette*, *Citizens Jury*, *Focus Group*, *PAME*, *Planning Cells* and *The World café*) may be used with either a low or a high level common knowledge and the five methods left out may be used also with a little common knowledge among the participants since the generation of this common knowledge is one of the objectives of each of these methods.
This is true also for the expert methods (*Delphi* and *Expert Panel*) whose aim is just that of stimulating the widest spectrum of opinions of the experts so to facilitate the discovery of innovative opinions (*Delphi*) or recommendations (*Expert Panel*).
As to the level of **maturity** of the participant about the center issue we have that:

1. we classify a method as + if most people have already opinions on the center issue,

2. we classify a method as − if the center issue is new and most people are still forming their opinions on it,

3. we classify a method as +/− if the method can be properly used in both cases.

According to this parameter the methods of M can be classified in two disjoint subsets:

1. those that do not need any maturity (*Delphi*, *Expert Panel*, *Focus Group*, *Planning Cells*, *Scenario building exercise*, *Technology Festival* and *The World Café*);

2. those that can be used in both cases such as 21st *Century Town Meeting*, *Charrette*, *Citizens Jury*, *Consensus Conference*, *Deliberate polling* and *PAME*.

The situation is a little bit more complex if we consider **complexity** parameter since we have four types of methods:

1. for a highly complex center issue such as 21st *Century Town Meeting*, *Consensus Conference*, *Delphi*, *Expert Panel* and *Scenario building exercise*;

2. for a medium complexity center issue such as *Focus Group* and *Planning Cells*;

3. for a low complexity center issue such as *Charrette*, *Deliberative polling* and *The World Café*;

4. for both a low and a high complexity center issue such as *Citizens Jury*, *PAME* and *Technology Festival*.

We remark how the parameter of **complexity** is a measure of both technical features of the center issue itself and of the intrinsic complexity of the center issue. This accounts for the fact that both experts oriented methods are classified as highly complex since their are suited for experts in the area of such issue. As a last parameter we have a measure of how much a center issue is **controversial**. According to this parameter we have that only one method is suited for a not very controversial center issue (*Planning Cells*) whereas all the others are either suited for a highly controversial center issue (*Citizens Jury* and *Consensus Conference*) or can cover the full spectrum from low to high controversiality: 21st *Century Town Meeting*, *Charrette*, *Deliberative polling*, *Delphi*, *Expert Panel*, *Focus Group*, *PAME*, *Scenario building exercise*, *Technology Festival* and *The World Café*.
As a general comment we note that a method ranked as $+$ on a parameter can be used also in place of a method ranked as $-$ on that parameter and that a method ranked as $+/-$ can be used in place of any other method, at least with regard to that parameter.
We note also that the main problem with these parameters is the mapping of a center issue on a quadruple of such values since to a given quadruple it may correspond more than one method.
For now we give only one example. More about this issue in sections 2.3 and 2.4.
Let us suppose an independent authority has associated to a center issue the following quadruple that expresses level of knowledge, level of maturity, complexity and controversiality in this order:

$$-, -, +, + \tag{1}$$

Without any information about the other features (type of the participants, available time for the process and available funds) we can only discard the following methods:

1. *Charrette*, *Deliberative polling*, *Focus Group*, *Planning Cells* and *The World Café* owing to the complexity,

2. *Planning Cells* owing to controversiality,

whereas any of the other methods could be reasonably adopted. If we try to find the best matching methods, on the other hand, our choice is restricted within the following set: *Delphi*, *Expert Panel* and *Scenario building exercise* that are the only methods that satisfy the afore mentioned requirements. In this case the choice is biased for experts oriented methods that exclude the majority of stakeholders and this exclusion may cause problems with them since they may feel any devised solution as an imposed one. We remark that we are in a framework where the methods are used in a mutually exclusive way, more on this in section 4.

2.3 Subsetting the methods

In this section we face the problem of subdividing the set of methods we listed in section 2.2 in a certain number of either disjoint or overlapping subsets according to the various parameters we have examined so far and that we list again here:

(p1) objectives;

(p2) knowledge ;

(p3) maturity;

(p4) complexity;

(p5) controversiality;

(p6) type of participants;

(p7) durations (as quick, moderate, long in relation with the whole duration of a method);

(p8) cost (as inexpensive, moderate, expensive, very expensive).

We denote such a set of parameters as $\mathscr{P}$.
In this section we consider the parameters as equally important though some of them (and precisely $(p2)$, $(p3)$, $(p4)$ and $(p5)$) represent features of the center issue so that they are characterized by some correlation. In other words such parameters characterize the center issue so they should not be considered in isolation one from the others. In what follows, in order to avoid too many constraints, we are going to use such parameters in a rather loose way.
We consider the above mentioned parameters in an *or* relation (so that not all of them need to be considered). If any of that parameters is considered it has the same importance of the already considered ones.
From an operative point of view we proceed as follows:

(1) we choose a subset of the parameters and assign to each of them a desired value among the admissible values,

(2) we consider the remaining parameters as non discriminating[4] (so that they can assume any value),

(3) we identify the methods that satisfy our constraints,

(4) if from step (3) we get an empty set we can relax the constraints of step (1), get a non empty subset and repeat the procedure on that new set

[4]Such parameters are seen as non discriminating or as equivalent since the various methods are considered as indifferent among themselves with respect to such parameters.

(5) if from step (3) we get more than one method we can use one or more of the discarded parameters (see step (2)) so to repeat the identification and refine the set and obtain either only one suitable method or a set of equivalent methods.

We now give some examples of this procedure at work.

1. We can use ($p7$) and ($p8$) to look for *quick* and *inexpensive* methods. In this way we find a set made of *Focus Group*, *The World Café* and possibly *Delphi*. To refine this set we can use ($p6$) and look for the methods that are addressed mainly to the stakeholders so to identify as *Focus Group* as the method that satisfies our requirements.

2. If we use ($p6$) and ($p4$) to look for methods that are addressed to *anyone* and that are well suited to deal with *highly controversial* issues we define the following set:

   { 21st Century Town Meeting, Scenario Building Exercise, Technology Festival, The World Café }

   To refine such set we can use ($p4$) and look for methods that can be used with highly complex issues. In this way we discard only *The World Café* but if we require that the participants have a lot of common knowledge about the issue (so we add ($p2$)) we single out the 21st *Century Town Meeting*.

3. Let us now concentrate on the features of the topic and so on the parameters ($p2$), ($p3$), ($p4$) and ($p5$). If we look for methods that can handle topics that are:

   ($p4$), of average or high complexity,

   ($p5$), highly controversial,

   we identify the following set of suitable methods:

   { 21st Century Town Meeting, Citizens Jury, Consensus Conference, Delphi, Expert Panel, Focus Group, PAME, Scenario Building Exercise, Technology Festival }

   If we moreover require that the methods can handle topics that are characterized by:

   ($p2$), a lot of common knowledge within the participants,

   ($p3$), a high maturity about the center issues from the participants,

   we refine such set to obtain the following reduced set:

{ 21st Century Town Meeting, Citizens Jury, Consensus Conference, PAME }

In this way we have identified a set of equivalent methods, at least according to the adopted criteria. We can perform a further choice by using $(p1)$ so to privilege the objectives of a method. We can also use time and cost parameters but, anyway, the above mentioned methods are to be seen as equivalent for what concerns the main features of the center issue.

2.4 Categorizing the methods

In this section we aim at subdividing the various participatory methods in a certain number of categories in two ways:

(c1) by imposing one of the possible lexicographic orderings on the parameters;

(c2) by giving different importance to the parameters and so by assigning to each of them a different weight.

In the case $(c1)$ we may consider only the parameters that we can think of as meaningful for the characterization of a method and not necessarily the full set $\mathscr{P}$.
The idea is the following:

(c1a) we start with one parameter ad assign to it a desired value[5];

(c1b) we identify the methods that satisfy that value, if the set is empty we must either modify the value or the parameter;

(c1c) if at step $(c1b)$ we find more than on method we choose another parameter according to our prefixed lexicographic ordering, assign to it a desired value and go back to step $(c1b)$ on the set of the currently selected methods;

(c1d) if at step $(c1b)$ we find only one method we are finished.

If we run the parameters out and end with a set of more than one method we must consider those methods as equivalent and refine the selection according to other criteria.
In the case $(c2)$ we have a set of weights $W = \{w_i \mid i = 1, \ldots, 8\}$ such that, without any loss of generality, we may suppose satisfy the following relation:

$$\sum_{i=1}^{8} w_i = 1 \tag{2}$$

In this way we may use either a **ranking method** or a **multicriteria method** such as $ELECTRE$ for the selection of possibly only one method.
The main difference with what we have seen in section 2.3 is that in the cases we deal with in this section we assign to the parameters we use (possibly the whole set $\mathscr{P}$) different importances from the very start.

[5] We can use as well a range of values.

2.4.1 Using lexicographic orderings

Since $|\mathscr{P}| = 8$ we have 8! possible orderings and it is therefore impossible to analyze them in full detail so we are going to analyze only a few of them just to show the method at work.
To ease the description we list again the parameters:

(p1) objectives;

(p2) knowledge (with possible values $(-, m, +, +/-)$);

(p3) maturity (with possible values $(-, m, +, +/-)$);

(p4) complexity (with possible values $(-, m, +, +/-)$);

(p5) controversiality (with possible values $(-, m, +, +/-)$);

(p6) type of participants (with possible values $(-, m, +, +/-)$);

(p7) durations (as quick, moderate, long in relation with the whole duration of a method);

(p8) cost (as inexpensive, moderate, expensive, very expensive).

If we have[6]:

$$(p8) \succ (p7) \tag{3}$$

we rank the methods according to $(p8)$ and then, if two methods have the same ranking according to that parameter, we rank the methods according to $(p7)$. As to $(p8)$ we may have the following ranking of the methods:

$$\textit{inexpensive} \succ \textit{moderate} \succ \textit{expensive} \succ \textit{very expensive} \tag{4}$$

whereas as to $(p7)$ we may have the following ranking of the methods:

$$\textit{quick} \succ \textit{moderate} \succ \textit{long} \tag{5}$$

so that relation (4) means that we prefer **inexpensive** methods and, cost being equal, we prefer **quick** methods. In this way we identify the two methods:

(m1) Focus Group,

(m2) The world Café.

The final choice can be performed in one of the following ways:

1. according to the **type of the participants** so that we can choose $(m1)$ if we want to admit only stakeholders or $(m2)$ if we want to admit any category;

[6] With $\succ$ we denote the relation "is strictly privileged to" whereas with $\succeq$ we denote the relation "is weakly privileged to" and with $\sim$ we denote the relation "is indifferent to", each being endowed with intuitive properties.

2. according to the **objectives** so that we can choose $(m1)$ if we want different opinions exposed and justified with argumentations or $(m2)$ if we want to have shared ideas generated.

We note that in this case in practice we cannot use the features of the center issue since they are almost equivalent for the two methods.
Over the parameters $(p2)$, $(p3)$, $(p4)$ and $(p5)$ we can define the following relation:

$$+ \sqsupseteq +/- \sqsupseteq m \sqsupseteq - \tag{6}$$

where $\sqsupseteq$ stands for "covers" and means that a method has more general applicability of another according to a certain parameter. In this way if we use parameters $(p4)$ and $(p5)$ so that:

$$(p4) \succ (p5) \tag{7}$$

we have that:

1. the ordering according to $(p4)$ allows us to identify the methods 21st *Century Town Meeting*, *Consensus Conference*, *Delphi*, *Expert Panel* and *Scenario Building Exercise*;

2. the ordering according to $(p5)$ allows us to single out immediately the method *Consensus Conference*.

We note that if we change the relation (6) as:

$$+/- \sqsupseteq + \sqsupseteq m \sqsupseteq - \tag{8}$$

and repeat the ranking according to relation (7) after the second step we single out the method *Technology Festival* whereas if we consider:

$$+/- \sim + \sqsupseteq m \sqsupseteq - \tag{9}$$

after the second step we get a set of eight methods (and precisely { 21st Century Town Meeting, Citizens Jury, Consensus Conference, Delphi, Expert Panel, PAME, Scenario building exercise, Technology Festival }).
In this case we need to use other parameters so to refine the set and possibly get only one method singled out.

2.4.2 Using either ranking or multicriteria methods

In this section we suppose that to the set $\mathscr{P}$ is associated a set of weights W that satisfy equation (2). Such weights have been assigned in some way to the criteria of $\mathscr{P}$ and represent input data for the chosen method of selection. We recall that a weight is a value that assess the relative importance of a criterion with regard to the other criteria.
The assignment of the set W can be performed in one of the following ways:

(a1) with a **ranking method**;

(a2) with a **rating method**;

(a3) with a **common scale and pairwise comparisons**.

As to the use of a **ranking method**, $(a1)$, we note that the criteria are ranked on a numerical scale from a common minimum value to a common maximum value. In this way to the $i-$th criterion is associated a value r_i. When the ranking has occurred we evaluate:

$$R = \sum_{j=1}^{8} r_j \tag{10}$$

and:

$$w_i = \frac{r_i}{R} \tag{11}$$

so to get a normalized vector of weights. In this way we have a full independence among the weights since there is no mutual influence among them.
As to the use of a **rating method**, $(a2)$, we can estimate the relative importance of the weights according to a predetermined scale. We can proceed as follows. We imagine to have 100 points and to allocate p_i of them to the $i-$th criterion. When the allocation is over (so that all the point have been assigned) we evaluate:

$$w_i = \frac{p_i}{100} \tag{12}$$

Also in this way we get a normalized vector of weights but in this way a ranking influences the remaining rankings since it reduces the amount of the available points.
Both methods suffer the following problems:

1. they lack of a strong theoretical foundation and suffer some arbitrariness in the assignment of numerical values or points to each criterion;

2. the weights they define are hard to justify since they are assigned one independently from the others.

As to the use of a **common scale and pairwise comparisons**, $(a3)$, it is possible to use the following method from Saaty (1980). We use a predefined and fixed scale to rank a criterion/parameter with regard to all the remaining seven criteria: 1 to denote equal importance, 3 to denote a weak importance of one over the other, 5 to denote essential or strong importance of one over the other, 7 to denote very strong or demonstrated importance of one over the other, 9 to denote absolute importance of one over the other, 2, 4, 6 and 8 to denote intermediate values. In addition to these values we also consider their reciprocal values (see further on). In this way we assign values to the elements $a[i,j]$ $(i,j = 1,\ldots,8)$ of a matrix A where $a[i,j]$ ranks the relative importance of parameter/criterion pi with regard to pj. Over such matrix we have the following obvious constraints:

1. $a[i,i] = 1$ so any parameter is equally important than itself;

2. $a[i,j] = \frac{1}{a[j,i]}$ that expresses a reciprocal condition over the parameters

When we have evaluated such a matrix we can obtain the associated vector of the weights trough the solution of an eigenvalue/eigenvector problem (see Saaty (1980)). In practice to evaluate W it is possible to use one of the following methods:

1. The crudest[7]. We sum the elements of each row and divide such a value with the sum of all the elements of the matrix. The ratio for the i-th row gives the i-th element of the eigenvector w that is normalized by construction.

2. Better. We sum the elements of each column and then we evaluate the reciprocal of each sum. To normalize we divide each reciprocal with the sum of the reciprocals.

3. Good. We evaluate the sum of the elements of each column and divide each element of a column for that sum (we normalize each column) so to obtain a new matrix. At this point we sum the elements on each row of the new matrix and divide the sum for the dimension of the matrix. In this way we evaluate an average over the normalized columns.

4. Good. We multiply the elements of each row among themselves, evaluate the $n-$th root (if n is the dimension of the matrix) of that value and, lastly, normalize each of such values.

5. Exact solution. We raise the matrix A to an arbitrarily large power and then divide the sum of the elements of each row of the resulting matrix by the sum of the elements of such matrix.

At this point if we wish to verify the accuracy of our rankings (and so the correctness of the vector W) we can use a method basically grounded on the definition of a **consistency index** ($C.I.$) and a **consistency ratio**. The former is defined as:

$$C.I. = \frac{\lambda_{max} - n}{n - 1} \tag{13}$$

where λ_{max} is obtained as the solution of the problem $AW = \lambda W$ (where A and W are known) and $n = 8$ in this case.
Such index is compared with the average **random index** that represents the consistency index of a randomly generated reciprocal matrix on the scale[8] $1 \div 9$. The **random index** allows us to obtain the **consistency ratio** index as a ratio:

$$consistency\, ratio = \frac{consistency\, index}{random\, index} \tag{14}$$

Values of **consistency ratio** lower than 0.10 define the matrix A we are working with as acceptable, slightly higher values (between 0.10 and 0.20) must be

[7] We use Saaty's terminology, as in Saaty (1980), page 19. The term "better" refers the second method to the first one.

[8] With the expression $1 \div 9$ we denote the closed set of integers from 1 to 9.

considered with care, really higher values (greater than 0.20) should turn into the rejection of the matrix A. In Saaty (1980) the Table 2 of averages **random index** values is provided.

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
0	0	.58	.9	1.12	1.24	1.32	1.41	1.45	1.49	1.51	1.48	1.56	1.57	1.59

Table 2: *Values of average random index (lower row) as a function of matrix size (upper row)*

The values on the first row are the dimension of A whereas those on the second row are the values of the corresponding average[9] **random index**.
Once the weights of W have been assigned it is possible to use the following procedure.
We start with a problem whose features can satisfy or not each of the criterion of $\mathscr{P}$. We may proceed as follows:

1. over the values $(-, m, +, +/-)$ we define a relation $\sqsupseteq$ (as we have already done in section 2.4.1) such that it defines the following ordering on the values of each parameter pi:

$$+ \sqsupseteq +/- \sqsupseteq m \sqsupseteq - \tag{15}$$

2. for each method we verify if the value of a parameter/criterion (pi) covers the same parameter for the given problem;

3. if the check has a positive outcome we say that a method satisfies the criterion (pi) we set a binary variable $y_i = 1$,

4. if the check has a negative outcome we say that a method does not satisfy the criterion (pi) we set the same binary variable $y_i = 0$.

When we have assigned values to such variables we may evaluate for each method:

$$r_j = \sum_{j=1}^{8} w_j y_j \tag{16}$$

for $j = 1, \ldots, 13$ or in general $j = 1, \ldots, m$ if we have m methods. In this way we define a ranking of the methods according to the values r_j. The method that rank the most is the more suitable for a given problem. The main problems we have to face in this case are:

1. we may have more than on method with the same ranking so we have to devise a method to handle these ties;

[9] It is easy to understand why in cases $n = 1$ and $n = 2$ the problem of consistency cannot arise. More precisely the problem of consistency arises only when the dimension of the matrices is greater than 2.

2. we have compensations among parameters/criteria that may be incommensurable so we have to account for this.

The other possibility is to use a multicriteria method such as $ELECTRE$ (Gallo (2006)). In what follows we are going to disregard many details since our aim is to present the general idea of the method. For instance we disregard the possibility of a veto between alternatives.
In this case we have the set of parameters/criteria $\mathscr{P}$ and the associated vector of weights W. We have also a problem and the set of methods M over which we have defined the relation "covers" $\sqsupseteq$. The methods are our alternatives and we say that:

1. a method is preferred to another if the former covers the problem and the latter does not cover it for the $i-$th parameter so that we have $x \sqsupseteq_i y$;

2. if both methods cover the problem they are indifferent for that given parameter or $x \sim_i y$.

For any two methods x and y we define the so called **preference index** defined as:

$$c(x, y) = \sum_{i \in C} w_i \tag{17}$$

where $C = \{i \mid x \sqsupseteq_i y \; or \; x \sim_i y\}$ where we have indexed the relations with regard to the $i-$th criterion. In this way we define a square matrix of 13 rows and 13 columns (or, in general, m rows and columns if the methods are m) whose elements are the values $c(x, y)$. If we properly define a threshold value s we can state that:

$$x \succ y \; iff \; c(x, y) \; \geq \; s \tag{18}$$

and turn the above defined matrix in a 0/1 matrix whose elements are:

1. equal to 1 if $c(x, y) \; \geq \; s$,

2. equal to 0 otherwise.

In this way we get a square matrix G whose entries may be equal to either 1 or 0. We can associate to G (with elements $g[i, j]$) a directed graph (also called **preferability graph**) if we think the labels of the rows and columns as nodes and to each 1 we associate a directed arc between the corresponding row and column nodes. If the matrix has some symmetry (so that $g[i, j] = g[j, i] = 1$) we have a undirected arc between the two nodes. A directed arc implements a relation of dominance through which the method at the tail dominates the method at the head. At this point we look for cycles or sets of methods such that $x \succ y \succ z \succ x$ and collapse them in a single node (**macro node**) so to get the reduced graph $\hat{G}$. Then we evaluate the **kernel** of $\hat{G}$ by discarding all dominated methods/nodes so to obtain the sets of equivalent methods among which a choice must be performed. The last step is equivalent to accepting all the methods that are undominated and discard all that are dominated by at least another method. We remark how each macro node represents a set of

"equivalent" alternatives among which to choose the preferred alternative and how we can have more than one macro node since the graph G is not necessarily connected.
As a final comment we note how this method is more an aid to the decision that a pure decision method but, in favorable cases, it may bring to a single final alternative and so to a real decision.

2.5 Who decides to use what and when

At this point we have to face two sensitive issues:

(1) who can decide which participative method is to be used;

(2) who can decide when or in which phase of a decision process the chosen participative process is to be used.

Both points are very sensitive[10] since:

(a) the choice of a method has an influence on the decision process mainly for what concerns the acceptance of its outcomes from the involved stakeholders

(b) the decision about the phase in a decision process during which to use a given method strongly influences both what can effectively enter as an input in the decision process and which is the effective relevance of its outcomes.

As to (b) we note how it is possible, for instance, to use a variation of the 21st *Century Town Meeting* called *electronic Town Meeting* (Cioni (2007)) to let its participants debate and deliberate only on some details of a law about participation (see also Appendix A) and use the outcomes of that process only as a consultative input for the real process of definition of the law itself.
As to (1) (decision of the method to be used) in this context we note how such a choice should be performed in a rather direct way without the need of long deliberations so to avoid the risk of an infinite recursion (from the need of a participative method to choose a participative method and so on). From this point of view possible solutions may be:

1. the use of some **voting mechanisms** among the possible stakeholders;

2. the use of a sort of **immediate acclaim**.

As to the voting mechanisms one possibility is to use a **single transferable vote** (Taylor (2005) and Gallo (2006)) method (also known as **method of successive eliminations**) since it reflects the way the voters assess the various methods.
In this case each voter votes his preferred candidate and the candidate who gets the fewest votes is eliminated and excluded from further competitions. His

[10] We discuss point (1) also in Appendix A.

votes are transferred to the second choice of each of his voters and the process is repeated until only one candidate is left. The method does not provide for any mechanism for handling ties that may be resolved, in the case of the choice of a participative method, with a properly designed random device. The main problem with this method is its manipulability and fragility to strategic voting so that it is possible that the chosen method is the worst for a high percentage of the voters. For this to be possible it is necessary that the exact preferences of the voters are publicly known and this rarely occurs in practice.
Obviously there are many other possibilities with similar aims (the selection of a participative method among a set of available methods seen as candidates) whose treatment is out of the scope of this TR.
As to the **immediate acclaim** we can proceed as follows (according to a method inspired by Vennix (1996) and Butler and Rothstein (2004) for the selection of some key figures of participative methods):

(m1) a method is proposed and a lapse of time is given for objections;

(m2) in absence of objections (or if objections are below a given threshold to be fixed in some way) the method is chosen;

(m3) if strong objections arise (or if objections are above a given threshold to be fixed in some way) those who made them must propose another method so the procedure goes back to step ($m1$). If those objecting people are not able to propose an alternative method their objections are made void and the objected method is acclaimed and approved (according to a sort of "constructive no-confidence");

(m4) the procedure goes on until a method either does not encounter any strong objections (with the proviso that already successfully objected methods cannot re-enter in the competition) or there is no new method with which to pit the currently selected method.

If the threshold is properly chosen and the lapse is properly fixed there is a good chance that the procedure converges to the selection of a method otherwise, if the procedure fails, it is possible to resort to a voting mechanism that must allow the selection of one method amongst the less contested methods.
It is obvious how in this case we have to solve the following problems:

1. to quantify the level of objection;
2. to fix a proper value for the threshold;
3. to define a right duration for the lapse of time, better short than long, since the choice must be performed without any long and articulated form of debate.

As to point (2) (the selection of the phase) we note how this problem can be solved essentially in two ways:

(2a) in a top-down way or through the definition of some laws and regulations that define either typology by typology or according to general principles at which phase a given method can be used (see also Appendix A);

(2b) in a bottom-up phase or through the definition of general guidelines by using which certain groups of citizens, possibly with some representative constraints, may require to set up a participative method of a certain type either in the presence of an external Authority (see Appendix A) or not.

We note the existence of an intuitive correlation between the precocity of the use of a participative method in a decision process and its effectiveness.
From this we can derive the following consequences.

(c1) For a participatory method to be started at an early phase of a decision process the latter must be publicly known in enough detail to allow the effective setting up of such a method. In this case the time needed to get the necessary information introduces a delay in the starting of the chosen method so that that delay may render the method useless.

(c2) In order to make a participative process less effective it is possible to use it at a late stage so that its participants may only debate marginal features of a decision process but, at the same time, may be convinced to have been involved in it. We are going to analyze a situation of this type in Appendix A.

2.6 Some final comments

The thirteen methods we have examined in this section obviously do not cover the full spectrum of the available methods. At the end of Elliot et al. (2005), for instance, the authors list forty nine methods without surely exhausting the possibilities since almost every day a new method or a variation of an existing one is devised and revealed to the world.
We are aware of this and we did not pretend to do otherwise. Our aim, indeed, has been to present a general framework for the analysis and comparison of participative methods so that it is possible to choose the best method for a given set of values of the set of the characterizing parameters $\mathscr{P}$.
Such a set $\mathscr{P}$ represents another arbitrary choice since it is possible to devise other ranking parameters each with its own range of admissible values. We think, however, that the proposed approach maintains its validity independently from the set of parameters we can use to rank the chosen set of methods.
We end this section with the remark that the proposed framework will be widened in section 4 with the examination of some possible cross fertilizations with the method we are going to introduce and discuss in section 3.

3 Formal consensus decisionmaking

3.1 Introduction

In this section we describe the structure of the method proposed in Butler and Rothstein (2004) with a few additions from Vennix (1996) and van der Belt (2004) so to frame the method within an applicative area.
In Butler and Rothstein (2004) we can find the description of a method for formal decisionmaking through consensus among the participants. The method is embedded in a process made of a certain number of steps and supported by a certain number of figures that are external to the members of the group and whose only purpose is to help participants to stay on track and to be engaged in peer-to-peer respectful relations.
We remark that Butler and Rothstein (2004) does not contain a precise recipe that can be used in every decision process so to frame it as a consensus based process. Consensus is a way to reach a decision within a decision process that can be framed in many ways, depending on the will and the needs of the participants.

3.2 Some preliminary remarks

The first step is to state what consensus methods are not.
First of all they have nothing in common with **voting procedures**. Within a consensus method the use of voting procedures is avoided whenever this is possible since voting is seen as a win-lose procedure, inherently violent and generally non respectful.
The outcome of a consensus method is not **unanimity**. Dissent and disagreement are fostered and encouraged within a creative conflict atmosphere that aims at the definition of optimal solutions but guaranteeing respect, trust and peer-to-peer relations.
The outcome of a consensus is not a **compromise** on the least common set of principles but is moreover the best possible solution that resolves the most of (if not all) the participants' concerns and that they consensually, with some possible exceptions, devise.
The following step should be the statement of what consensus methods are. Such a statement is one of the main subjects of the following sections.

3.3 On group dynamics and formal consensus

Consensus method is a process aiming at **empowering**[11] people in a decision process so to make them actively engaged in that process. The label **formal** has been added to stress the presence of a clearly defined structure and a set of shared rules among its participants that they must follow to get an effective decision process.
Apart from this, from the presence of a shared set of rules, the method must be

[11] To **empower** means to give to somebody the authority or power to do something, to act in a certain way.

finely defined by the group that uses it so it is a flexible framework characterized by[12]:

1. a foundation,
2. a structure,
3. a collection of techniques,
4. a certain number of tools and figures,

that allow group members to have "efficient and productive group discussion" (*xiv*).
As to the **foundation** we mean a set of **common principles** in the sense that they are commonly accepted by the members of the group (see further on). For the moment we define as a group an heterogeneous set of people that can act either for themselves or as representatives of other people. Each member of the group has hidden/evident desires, beliefs, intentions, goals and may be more or less disposed to change them. Also decisions that made the people join to form a group are part of the foundation. This does not mean that the group and its principles and decisions must be something that lasts forever. We can have groups that form under contingent pressures. What is important is that also in this case there is the acceptation of a set of common principles and the shared decision to act as a temporary group.
Within this framework we wish to mention from the very start the following items:

1. the **agenda** as a proper way to structure and steer the discussion;
2. the roles, techniques and skill that must be taught to the participants so to guarantee a smooth operation of the process;
3. the evaluation as a "tool for self-education and self-management" (*xiv*).

After this premise we start by considering which can be the advantages from using **Formal Consensus** within a decision process. There are many ways in which a decision can be taken, from the "use" of a dictator to the adoption of one of the many available voting methods. Another possibility is to "involve every person who is involved in a decision in the decisionmaking process" (3). In this way we can obtain:

1. a decision that reflects the will of the participants,
2. a stronger commitment over such decision as to its implementation,
3. a better conceived decision taken without potentially discarding any point of view or any concern.

[12]In order to unburden the text with citations all the parts within double quotes are from Butler and Rothstein (2004) so we only mention the number of the page. If they come form another source that source is explicitly mentioned.

As any other method, *Formal consensus decisionmaking* ($FCDM$) has its own pitfalls since:

1. its elements must be taught in a cultural environment grounded on competition and win-lose methods;

2. its request of causing and exploiting conflict within a creative process clashes with the cultural pressures to avoid, deny and repress conflicts during meetings so to reach as soon as possible a compromise solution;

3. it may be accused to be both time consuming and difficult.

As to the last point we can say it is a mere shifting of attention from the problem to the method since, every time we have to solve a complex problem and take difficult and complex decisions, we need time and skills independently from the method we use. So it is true that $FCDM$ may be inefficient but this depends both on the nature of the problem and the decisions (and this may hold also if we use other methods) and on the fact that the participants do not follow its formal structure.
The basic thing is that $FCDM$ is a **group method** so it is heavily influenced by **group dynamics**. With the term **group** we mean a "number of individuals having the same relationship" (4).
This means that the method benefits from the dynamic interactions among the members of the group under the form of:

1. **conflict** that is "encouraged, supported and resolved cooperatively with respect, nonviolence and creativity" (5);

2. **absence of voting procedures** so to avoid any competitive dynamics that brings to win-lose solutions in the choice among various possibilities;

3. **consensus** as a way to "create a cooperative dynamics" (5) through a sequential analysis of the proposals and a sequential analysis and resolution of the related concerns,

4. **depersonification of the proposals** that become a property of the group and tend to accomplish the purpose of the group otherwise they are not taken into consideration.

Besides being a group method $FCDM$ benefits from the following features ($6-9$):

1. least level of violence since it takes into consideration all concerns and tries to resolve them before any decision is taken;

2. highest level of democracy since it is an inclusive process that encourages participation;

3. use of group principles that characterize objections as admissible (and so to be resolved or validated) or inadmissible and therefore not admitted so to prevent filibustering;

4. usability in larger groups owing to its structured nature;

5. higher quality of the solutions with greater participation since more and better solutions may be devised.

3.4 The structure of the decisionmaking process within $FCDM$

The structure of the process is based on the following assumptions:

1. there must be an explicit acknowledgment of consensus for decisions to be adopted;

2. those who do not agree and cannot give such an explicit acknowledgment of consensus are responsible of expressing their concerns;

3. no decision can be taken until all the expressed concerns have been analyzed and resolved or, if no resolution is possible, those who expressed them can consent a decision be taken with the signaling of this fact or can step aside and contest the decision but without carrying out any boycotting action or the members of the group can even decide to declare a block. In this case the unresolved concern that blocks a consensus must be grounded on the common principles of the group, that the group adopted as a necessary condition for its setting up.

All this is reflected in Figure 1 where a certain numbers of loops are present and where it is supposed that a final consensus stage is always reached. After the attainment of of that stage a certain number of so called **closing options** are available:

(co1) **send to committee**;

(co2) **stand aside**;

(co3) **declare block**.

In case ($co1$) a proposal can wait the next meeting to be approved it is possible to send it to a **committee** whose members can include representatives of the major open/unresolved concerns and whose aim is the clarification of contested points and the devising of new and creative solutions to be debated by the group at the next meeting.
In case ($co2$) if a concern remains unresolved the Facilitator may ask its proponents if they allow the proposal to be adopted notwithstanding their concerns are still unresolved and there in no way thorough which it seems possible they are resolved. In this way these people stand aside or agree to disagree and their status of owners of unresolved concerns is recorded on the notes of the process and becomes a part of the decision itself. These concerns can be raised again if subsequent meetings until they are resolved or their owners stand aside or there is a declared block.

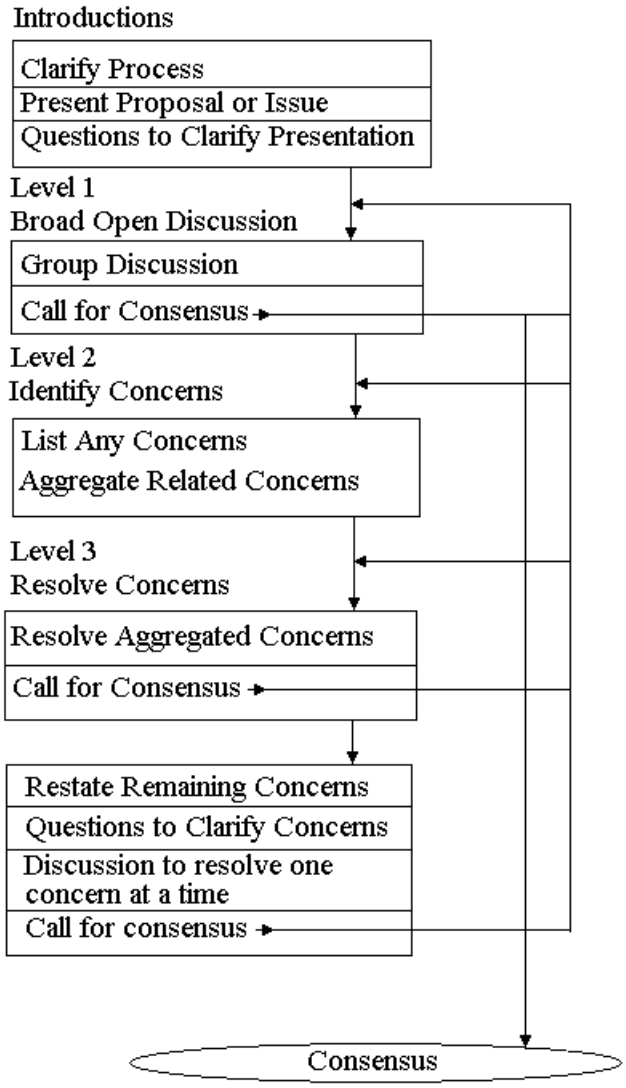

Figure 1: *The Flow Chart of FCDM*, from Butler and Rothstein (2004), page 19

If, (*co*3), some concerns remain unresolved notwithstanding long and accurate discussions and its proponents declare that cannot stand aside the Facilitator declares that no consensus is possible so that a given proposal is blocked and the process can step to the following agenda item, if any. We note that already resolved concerns cannot reenter the discussion unless something has changed about them so to prevent, as much as possible, any filibustering.
Beyond all this we list here some basic rules of formal consensus.

(br1) Every decision taken by consensus may be modified only through a new consensus so that until a consensus is reached on a new competing decision the old decision remains valid. In this way there is no possibility to bypass the decision process with the use of voting mechanisms or referenda.

(br2) All structural decisions about logistics, discussion methods, embodiment of supporting roles, are taken by a consensus but without a debate. We call this way of of acting a 'quick and dirty' way and is based of the following steps:

  (br2a) a proposal is made,

  (br2b) if any objection is raised the proposal is dropped otherwise is adopted,

  (br2c) if all possible proposal are contested no decision is taken of that issue.

(br3) All content related decisions must be taken after a debate and through an explicit consensus so that an open discussion precedes the call for consensus on that issue.

At this point we refer to Figure 1 to describe both the structure and the flow of the process.
The **structure** of the process is simple and is essentially made of a certain number of **steps** or **levels** connected in **cycles**. We have precisely five levels that form a sequence:

1. Introduction, where the whole process is presented and a proposal or an issue is presented and clarified;

2. level 1, devoted to group discussion;

3. level 2, devoted to the listing of concerns and in their aggregation on the basis of similarities;

4. level 3, devoted to the resolution of aggregated concerns;

5. level 4 or closing level where the remaining concerns are resolved one at a time.

We recall that Figure 1 describes the structure of one meeting within the whole process since it is very hard that in dealing with complex and controversial issues a single meeting can be sufficient to solve all the concerns and to reach a shared agreement on a proposal or on a solution. It is obvious that some of the

initial levels may be skipped in case the meeting is devoted to solve previously expressed but unresolved concerns.
At levels 1, 2 and 4 the process gives the Facilitator to **call for a consensus**. This call is made by the Facilitator through the use of neutral but inviting questions to which there can be three possible types of answers from the participants (19):

1. **remain silent** so to give consensus and accept the issue/proposal as it is;
2. **stand aside** so to stress the presence of unresolved concerns but also the will to accept the issue/proposal as it is since it is believed to match the group's values;
3. **without consent** so the the presence of unresolved concerns is recorded and such concerns are dealt it either within the same meeting or in the following meeting possibly with a sending to a committee for further "off line" discussion and clarifications. This outcome means that some of the participants believe the issue/proposal violates the purposes or the values of the group and cannot be accepted. This in order to satisfy the commitment to the group principle and to avoid filibustering and boycotting.

If a consensus is reached the currently under discussion issue/proposal is adopted so that it is either possible to skip to the following level or to adopt one of the closing options (not shown in Figure 1): send to committee, stand aside or declare block.
From every level it is possible to go back at any point along the sequence or to step at the following level (but for the last level). In this way the process introduces a set of procedural feedback loops in addition to the feedbacks among participants that are provided by the evaluation phases, not shown in Figure 1.
Figure 1 shows also how the **flow** of the discussion among the participants as a succession of phases.
The **Introductions** phase aims at clarifying the process (so that the Facilitator introduces the presenter of the issue/proposal and reminds the participants of previous actions and unresolved concerns on it), at the presentation of the current issue/proposal and at posing of questions from the other participants with only the aim to acquire greater comprehension of the current item.
In all cases where it is possible, written material should be distributed well in advance of every phase so to allow the participants to get knowledge about it and to encourage discussion and better the interplay among the participants.
The next step (**Level 1**) is devoted to a **broad open discussion** during which concerns may be raised but are only listed and not discussed. When the discussion is over the Facilitator asks for consensus with the possible outcomes we have already examined.
If no consensus is reached it is possible to step at **level 2** (**Identify Concerns**) so to let all the participants to express their own concerns and have them listed and possibly aggregated if they show some similarities or some common features or may have a common cause. We remark how performing an aggregation of

distinct concerns within the same global concern is a hard and delicate task since it may turn out in the distortion of a concern and so in the exerting of some sort of violence over its "owner".
This is an intermediate level and has no call for consensus. From here the process steps at **level 3** where aggregated concerns are resolved one at the time and when all is over the Facilitator issues a call for consensus. If the call fails and no consensus is reached it is necessary to step to a more focused discussion so to try to solve single, non aggregated concerns (**level 4**).
At this level all the remaining concerns are restated one at a time, are clarified through proper questions and possibly solved through a discussion involving all the participants. After every concern has been discussed and possibly solved (or at least the possibilities to solve it have been explored) there may be from the Facilitator a new call for consensus.
We remark how the solution of every concern must occur within generally accepted principles by the group but may reopen already solved concerns. This is the reason why we have the feedback links with previous levels along the decision chain from the initial to the closing levels.

3.5 The basic principles of $FCDM$

Within $FCDM$ conflict if nonviolent is both necessary and desirable since from the contraposition of different theses and proposals we may hope to have better solutions spring out. For this reason within a $FCDM$ process conflict and disagreement must be expressible without fear. Of course conflict cannot degenerate since at the basis of the method we have nonviolence as a way of behaving and relating with the other members of the group.
Another reason why the level of conflict can be kept under control is the presence of a common goal and a common commitment about it.
All this is guaranteed also by the founding principles of the method that allow the building up of an environment "which promotes trust, respect and skill sharing" (22).
Among these principles we mention here:

1. **trust** as a way to be open to new ideas and to be willing to examine one's attitude;
2. **respect** to one another as a way to separate problems from people;
3. **unity of purpose** as a basic understanding about the goals and purposes of the group;
4. **nonviolence** as a commitment to achieve the goals while respecting differences and cooperating with the other members;
5. **self empowerment** as a way to be responsible of one's own decisions without relying on external authorities or experts;
6. **cooperation** as a "shared responsibility in finding solutions to all concerns" (23);

7. **conflict resolution** as a way to settle disagreements among diverse viewpoints by exploring the strengths and weaknesses of each as well as of attitudes, assumptions and plans;

8. **commitment to group** as a way to recognize the priority of the group's needs over the needs and desires of an individual member;

9. **active participation** as a commitment for any member to express his best thoughts, plans and ideas so to contribute to the overall process of synthesis and without using defensive argumentations that risk to disrupt the process;

10. **equal access to power** as a way to balance the inequity of the power distribution among the members of a group through the sharing of power, skills and information;

11. **patience** as an attitude for the respect of the needed timings of the process avoiding any short cut for how promising it may seem since the method requires the needed time to allow "for the creative interplay of ideas" (25).

On the other hand when we try to use a $FCDM$ process within a society whose basic principles are radically different we have to face the following impediments.

1. **Lack of training** to the use of $FCDM$ method that may hamper its effective use with new members that are trained in competitive ways within win-lose methods where the aim of winning is more important than of getting good and fair solutions. The need of training aims at making the consensus as a common form of decisionmaking.

2. **External hierarchical structures** that may conflict with the group dynamics and may hamper the reach of a consensus within the group. To avoid interferences from authorities and structures external to the group the members of the group must recognize their autonomy from external powers so that they can reach an agreement through the use of this method.

3. **Social prejudice** that enters into the dynamics of the group and may interfere with "the spirit of cooperation and equal participation" (26). Moreover it may happen that social biases are unconsciously reflected in the process so that it is hard to confront and change them.

3.6 The roles and the techniques

The $FCDM$ is endowed with a certain number of **supporting roles** that may be embodied by one or more figures. Such a role may be filled with 'quick and dirty' methods, without the need of a long debate and, of course, without applying the $FCDM$ so to avoid the risk of an infinite recursion. The basic 'quick and dirty' method to assign a role is to propose for that role the name of a person with possibly some prior experience in the same role. If the name does

not face any strong objection the role is assigned otherwise another name is proposed until an assignment is made or the list of possible names is exhausted and the role is left vacant. Even if a role is assigned it may be a good practice that more people alternate in it during the process. If a role is initially left vacant it may be assigned at a later stage if the group feel its presence as necessary. We remark how that 'quick and dirty' method is a form of consensus based method grounded on the absence of a strong dissent according to a sort of negative approach.
As to the roles from a normative point of view we list the following.

(r1) **Agenda planners** since they form a group of people that gathers before each meeting and sets up an agenda to be proposed and approved by the other participants. The agenda include the items, their arrangement, the assignation of presenters and the time limits. The proposed agenda must be written in a document to be accepted or modified by the participants at the very beginning of each meeting. The agenda items come from suggestions from the group members, reports or proposals from various committees, items from the previous meetings, standard agenda items such as announcements, breaks, decision review and evaluation phase. Fundamental points of an agenda (that can be contested) include the order of the items, the names of the presenters, the time allotted to each item and the possibly excluded items. After the agenda has been reviewed and accepted we say that an **agenda contract** is in force and must be respected by all the members of the group under the supervision of the **Facilitator**.

(r2) **Facilitator** that conducts the group process leading it without giving his personal opinions. If this occurs (or if he gives his personal opinions) it is better if the facilitator leaves the role for a certain period so to freely express his opinions. In some cases it is advisable to appoint either a co-facilitator or more than one facilitator.
The main tasks of the facilitator are: addressing the needs of the group;, evaluate the quality and fluidity of the discussion; evaluate the adopted discussion technique (see ($t1$) and ($t2$)); ease participation; being aware of what is happening, what has happened and what is going to happen; respecting the agenda contract and have it respected.

(r3) **Peacekeeper** that is selected without discussion by using the above mentioned 'quick and dirty' method. Mainly in large groups and in presence of "very touchy, controversial topics" (37) the Peacekeeper pays attention to the mood and tone of a meeting and may signal to the facilitator when tension rises too much and also call for a short break during which he can remind to the group both the agenda contract and the reasons why they are there as a group.

(r4) **Advocate** are more than one and are selected with the by now well known 'quick and dirty' method. Their tasks are to help people that owing to

strong emotions or other difficulties cannot express their opinions or concerns. An advocate interrupts the meeting and sets up a face-to-face discussion with that person to report the outcome to the meeting when the face-to-face discussion is over and the issue has been clarified. In the meanwhile the other members may take a break or deal with another, more neutral, agenda item.

(r5) **Timekeeper** that assists the Facilitator in the respect of the timings of the agenda contract so to avoid any time pressure from interfering with the process. The task requires that everyone is aware of the time elapsed and the time left for any agenda item and for the whole meeting.

(r6) **Public scribe** whose task is to write on paper or on a black/white board the information so that they are accessible to all the members of the group. This role is useful during brainstorming and small groups sessions (see ($t1$) and ($t2$)).

(r7) **Notetaker** that has the task to write down the report of any meeting so to avoid problems of memory and to allow the checking of past decisions. In this way the group obtains an official report that may be validated by its members between two consecutive meetings and that provides a way for absent members to be kept up-to-date with the group's work. The report usually include: date and attendance, the agenda, some short notes about the discussion and the verbatim notes of proposals, decisions, announcements and information about the following meeting as well as evaluation comments (see section 3.7).

(r8) **Doorkeeper** that are usually more than one and whose main task is to welcome on time people, distribute materials, communicate variations and welcome late comers and inform them on the status of the meeting.

As to the **techniques** we have:

(t1) **facilitation techniques**;

(t2) **group discussion techniques**.

Facilitation techniques include the techniques that the Facilitator may use to manage:

1. the agenda so to satisfy the agenda contract,
2. the dynamics of the group members,

in a creative and adaptive way using and devising techniques that adjust to any different situation.
Among these techniques we mention the following.

(t1a) **Techniques for making the participation easy** through a fair selection of the next speaker in order of hands raised, by keeping a list of those

who want to intervene or by stacking. In the last case those who want to intervene raise their hands, are counted off by the Facilitator and then intervene in that order.

(t1b) **Techniques for managing the flow of the process** by choosing a technique of discussion more balanced and with higher participation and also through the imposition of short periods of silence or short breaks so the tension may lower and the process flow may restart more smoothly.

(t1c) **Techniques for steering a meeting** by either **calling for consensus** or **summarizing** or **reformulation**.
By calling for consensus we mean an attempt from the Facilitator to close an issue by verifying the existence of any unresolved concern. In their absence it allows to verify if there is a sufficient level of consensus among the participants so that it is possible to declare a problem as solved.
By summarizing the facilitator may prevent the discussion form becoming circular and so a waste of time where speakers repeat themselves without any real progress.
By a reformulation the Facilitator may reformulate the starting proposal with the modifications occurred during the discussion so that it is clear to everybody which is the current proposal under discussion.

(t1d) **Techniques for various aims** such those for real time collection of information during a meeting without taking a break, for using straw polls to verify the status of a proposal in a non-binding way, for handling disturbing members and disruptive behaviors through censoring or expulsion in presence of reiterated "bad" behaviors.

Group discussion techniques concern the techniques that can be adopted to handle the discussion within a group. The most common technique is to have one person speak at a time to the whole group and according to a schedule defined in some way (see ($t1a$)). Other techniques include:

(t2a) **small group**;

(t2b) **brainstorming**;

(t2c) **go-rounds**;

(t2d) **fishbowl**;

(t2e) **active listening**;

(t2f) **caucusing**.

The technique of the **small group**s is based on the subdivision of the whole group in smaller sub groups after a random selection or a self-selection so that the participants to each small group can more easily share their ideas and points of view. When the technique is used it is necessary to pose precise time limits and assign a notetaker for each group. When the small group session is over the

subgroups reconvene in the whole group and the notetakers relate to the whole group about the outcome of each own's sub group with the Public scribe that publicly summarizes and write down the relevant points and issues.
With **brainstorming** we mean a group session where more speakers are allowed to speak at the same time, ideas and proposals are freewheeling generated and collected by the Public Scribe for a later deliberation.
The technique of **go-rounds** is based on the fact that the Facilitator states a question and then asks for an answer or a comment from all the members of the group, none excluded. This gives to every member the possibility to answer to a specific question by expressing their view and without commenting on somebody's else response.
The **fishbowl** technique is based on the following procedure. Some members of the group that represent different viewpoints collect together surrounded by all the others and begin discussing about a controversial issue while the others listen without any possibility of intervention. After a predetermined time has elapsed the whole group reconvenes so the fishbowl discussion is analyzed and evaluated.
The technique of **active listening** aims at allowing the group to understand well a difficult point and is based on the listening of the presenter of a hard issue and in the repetition of what was heard to verify that it has been accurately understood, a variation of the technique of 'repeating with one's own words'.
The technique of **caucusing** is similar to that of **small group**s but from the fact the a caucus is composed of people with similar viewpoints that tend to unify similar perspectives and define specific points without being under the focus of the whole group.

3.7 The evaluation phase

The use of evaluation techniques in an ad hoc evaluation phase at the end of each meeting is one of the key points of $FCDM$ and a way to better its carrying out and its outcomes.
The main reason for using an evaluation phase is that there is "always room for improvement in the structure of the process and/or in the dynamics of the group" (27).
During every evaluation phase it is necessary to devote no more than five or ten minutes to "listen to each other and learn about each other" (27) so to improve the process of group interaction.
The evaluation comments should be included in the notes of the meeting so to reveal a persisting problem or the real evolution of the process beyond the decisions taken and the reports given.
Th **main purpose** of evaluation is to provide a forum where all the **negativities** of the process may be addressed and possibly resolved but also the **positivities** are acknowledged as well as any progress of the decision process.
Among the negativities we list: "procedural flaws, inappropriate behavior, facilitation problems, logistic difficulties and overall tone" (28).
During this phase it is possible only to address such negativities and to suggest

solutions so to improve the quality of the process itself and enforce both cooperation and trust.
The participation to the evaluation phase should be encouraged and not forced and the discussion should be kept at an impersonal level (and so avoiding to single out individual culprits) and on general principles keeping in mind the fact that all the participants belong to the same group and have a common purpose.
In some cases it is possible to devise an evaluation phase at the end of each meeting but also at the end of each session, if present. Evaluations can take a written form so to allow everyone to respond and record comments to be used at later stages.
The main aims of an evaluation are, in any case, the reminding of the existence of a group with a unitary purpose and the provision of an opportunity to comment the process and improving its quality.
The evaluation phase may, indeed, be carried out to be used as:

1. a way to improve the process from an analysis of the past occurrences;
2. a way to analyze attitudes and statements that proved to cause problems;
3. a way to foster the understanding of group dynamics and improve group learning;
4. a way to expose hidden beliefs, assumption and prejudices that may negatively affect the process:
5. a way to examine the roles of the various supporting figures so to improve their actions and to cover vacant roles.

The evaluation phase is usually carried out by posing a certain number of questions to the participants. It is important the the questions are conceived so to foster participation and so without being ambiguous or offending or casting doubts on the quality of individual participation. Some typical questions may concern, for instance, the attitudes of the participants, the level and frequency of participation, the level of attention, the punctuality of the participants, the tone and the atmosphere, the quality and quantity of the resources and of the logistics, the quality of the overall event, the level of accomplishment of expectations and goals and possible procedural flaws, changes and improvements.
From this brief analysis it should be clear how the evaluation phase (an application of the closed loop thinking) is an integral part of the overall process and how its correct execution may greatly improve the process quality as well as the quality of the devised solutions. This feature is really important and its presence is a good reason to positively evaluate the tool that provides for it. In many cases, as it will be more clear from Appendix A, tools are devised without providing for any evaluation phase under the presumption that the processes are perfect, no flaws may hamper their carrying out and no run time corrections will ever to be made. Unfortunately this is hardly ever the case and without providing for any closed loop thinking through feedback systems the currently adopted mechanisms of describing all the presumed possibilities is almost surely doomed to failure.

3.8 Framing the method within our approach

In this section we frame the current $FCDM$ method within the approach we described in section 2 so to characterize it according to the parameters of the set $\mathscr{P}$ that we list here again:

(p1) objectives;

(p2) knowledge;

(p3) maturity;

(p4) complexity;

(p5) controversiality;

(p6) type of participants;

(p7) durations (as quick, moderate, long in relation with the whole duration of a method);

(p8) cost (as inexpensive, moderate, expensive, very expensive).

Some of these parameters are easily quantified for the current method whereas some represent a harder task. Let us start with those of the former type.

($p6$). For this parameter we note how the **type of participants** may be "anyone". The only basic criterion is that all those who are involved in a decision process are at least represented in some way. There is no preclusion of anybody since the method aims at establishing peer-to-peer relations among all its participants without any preclusion for any category.

($p7$). As to the **durations** we note that there is no closing event (so we does not consider the value of **d_event**) and how the total duration (the value **d_total**) may vary a lot depending on the dynamics of the group involved in the decision process. In this case we rank the method as of variable duration with a trend towards long durations.

($p8$). As to the **cost** all we can say is that it depends mainly from the duration of the method but since the method does not require very advanced technical facilities at the most it may be ranked as expensive. We note how generally it is possible to hold down the costs through an accurate scheduling of the meetings.

Then we examine some parameters whose characterization is a little bit harder.

($p2$). As to the **knowledge** we note how the methods can be applied also in cases where there is a few of a common knowledge since one of the aims of the method is the creation of such a common knowledge. This may not be true in general since a minimum base of common knowledge may ease the process though a too wide common base may hamper it by preventing the revelation of truly innovative solutions. We rank the method (according to this parameter) as $-$ but also the ranking $+/-$ may be suitable.

($p3$). As to the **maturity** we note how a great deal of maturity, under the form of opinions on the center issue of the decision problem, may be both an advantage (since it guarantees a higher level of the discussion) but also a hindrance since it introduces in the discussion strong opinions that may be hard to question and modify. We may rank the method (according to this parameter) as $-$.

We end with the last three parameters that are potentially harder to characterize. Before going on we recall that if a method is well suited to handle highly controversial topics it is well suited also for handling low controversial topics. The same holds also for other methods defined in similar ways.

($p1$). For what concerns the **objectives** the method allows the revelation and resolution of concerns, the devising of shared accepted solutions and both debate and deliberation so it is a wide spectrum method.

($p4$). For what concerns the **complexity** the method may prove, in an optimal setting, well suited for handling highly complex issues within a competitive but collaborative framework but in general, with poor quality setting, it is more suitable for low complexity issues so that the ranking (according to this parameter) is m.

($p5$). Last but not least one could imagine that the method was well suited for handling **highly controversial** issues since the method is well suited for the expression and the resolution of conflicts. This is the hard part since if the level of controversiality is not kept under control it may give rise to harsh conflicts at an emotional level and this may disrupt the method and give rise to sub optimal solutions.

4 Cross fertilizations

4.1 Introduction

The aim of this section is twofold:

1. on one hand we aim at integrating among themselves the methods we have presented in section 2,
2. on the other hand we aim at merging what we have seen in section 2 with what we have seen in section 3 to show which benefits we can expect form the use of consensus based techniques in a decision process.

In section 2 we have seen a set of methods as separate tools. One of the underlying hypothesis is that each method imposes over the others owing to its features and the features of the center issue. This is hardly ever the case and in this section 4 we analyze:

(1) the possibility of integrating a set of methods among themselves, section 4.2;

(2) the benefits from integrating consensus based practices in each single method, section 4.3;

(3) the use of consensus based practices for the selection of a single method or of the methods to be integrated and the ways of integration, section 4.5.

As to (1) we switch from the use of single methods to the use of multiple methods connected to form a directed (possibly acyclic) graph structure.
As to (2) we aim at examining which benefits can be derived through the preferential use of methods that are grounded on consensus based practices and avoid as much as possible the recourse to voting procedures and other win-lose practices.
As to (3) we remark how such a choice should be at least negotiated with the participants at a participatory process and not being imposed to them. The best case is when such a choice is endogenous to the participants and is attained by them through the use of consensus based practices. Again we refer to section 4.2 for a discussion of the use of a plurality of methods.
As we have seen in section 3 the use of formal methods grounded on consensus based practices has a cost in terms of the complexity of the procedures and the need of trained personnel and participants. Such costs, that enter also in all the methods we have seen in section 2, must be taken into consideration whenever a participative method must be chosen. The issue of the trained personnel is particularly important and critical since if the key figures and the participants are improperly trained the process may completely fail and produce majority based solutions dressed up as consensus based solutions.

4.2 Integrating methods

In section 2 we introduced a set of methods that can be used within participative processes. Such methods are usually seen as mutually exclusive so that if an authority decides to use a 21st *Century Town Meeting* this is the only method used and the same holds also if the same authority (possibly through a law, see Appendix A) decides to adopt a *Delphi* method or a *Focus Group* method.
In this section we examine a first level of cross fertilization by analyzing the possibilities of composing such methods in the following ways:

(p) parallel composition,

(s) sequential composition,

(m) mixed composition,

(h) heterogeneous composition.

In the case of **parallel composition** we have a set of methods that are run in parallel. Such a set may be either **homogeneous** or **heterogeneous**. An underlying hypothesis of this form of composition is that every method has its own set of participants whereas this is not necessarily true in the sequential composition case even if this separation should be encouraged in order to avoid biases among the different composing methods.
In the **homogeneous** case the set is composed by a certain number of replicas of the same method whereas in the **heterogeneous** case it is composed by different types of methods but with comparable durations. In any case the outcome of any composing method must remain unknown to the participants of the other methods so to avoid any possible bias.
When methods are put in parallel we need a way to merge their outcomes that may form an heterogeneous set of incomparable outcomes since not all the methods are planned to produce a **yes/no** evaluation of an issue.
This **merging phase** may be a duty of the political authority, so that it is not seen as a further participative method, or may be carried out through another participative method so that we are in a mixed composition case.
The use of a certain number of methods that are run in parallel allows the involvement of different categories of participants on the same issue so to guarantee the widest plurality of opinions but also a wider participation of the member of an homogeneous category but from distinct areas so to assure a wider territorial representativity.
As to the parallel composition of **homogeneous** methods some few examples can be he following:

1. a certain number of instances of *Focus Group* run in parallel around a common center issue of limited scope such as an urban renewal plan on a limited area;

2. a certain number of instances of 21st *Century Town Meeting* run in parallel and in distant geographic areas but around an issue of general interest such as the Energy Plan of a country;

3. a certain number of *Delphi* methods run in parallel with some of them focused on the evaluation of the present (and the past) situation and the others on the devising of the forecasting of social and technological developments.

As to the parallel composition of **heterogeneous** methods we give only some examples:

1. a *Charrette* method and a *Citizens Jury* method run in parallel so to give to the political deciders both a consensus based action plan and an informed opinion over a certain center issue;

2. a *Delphi* method (analysis oriented) and an *Expert Panel* method (synthesis oriented) run in parallel so to cover all the methodological possibilities around a center issue;

3. a *Focus Group* method and a *World Café* method run in parallel so to have an exposition of different opinions and the generation of ideas about a center issue in parallel.

It is obvious that what we have seen for two methods holds also in case of more than two methods. To have an **heterogeneous** composition it is mandatory that the set of used methods contains at least one method that is different from all the others. From this we have that, in the case of the *Focus Group*, we may have a set of instances of *Focus Group* methods and at least one *World Café* method to have an **heterogeneous** composition.
In the case of **sequential composition** (see Figure 2(s)) we can have a participatory method pm_1 that produces data (under the form of knowledge, recommendations, data or something like that) as an input of another participatory method pm_2 that, in its turn, may act similarly for another cascaded participatory method pm_3 and so on.
In Figure 2 (s) we have:

1. an expert oriented method (*Delphi*) that allows the production of an informed knowledge base made of opinions and predictions from experts in an anonymous format;

2. such a knowledge base forms the input for a deliberative method (such as *Citizens Jury*) that produces a set of recommendations;

3. such a set of recommendations may represent the input of consensus generating method (such as *Charrette*

The consensus generated among the participants to a *Charrette* process is the input for the political and administrative deciders that, upon request, may

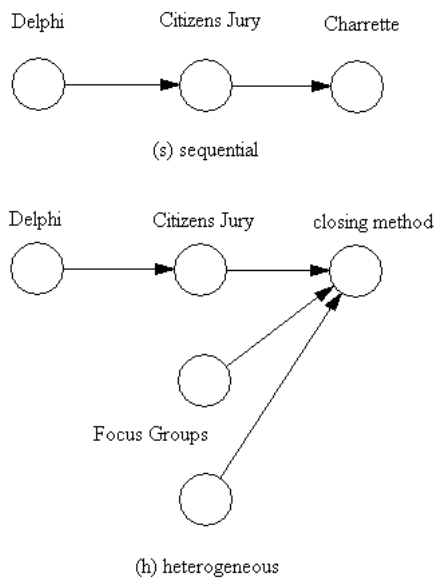

Figure 2: *Sequential and heterogeneous compositions*

access to the outcomes of all the steps in the sequence so that they may take their decisions with a wide consensus among the stakeholders and the other citizens. In addition the deciders gather information from all the methods in all the available forms.
We remark how the use of a sequence of methods produces a method whose duration is the sum of the durations of the composing methods plus the time needed for the coordination among such methods. It is obvious that if the issue poses strong time constraints these are reflected over the structure and the length of such a sequence. Usually, however, it is not necessary to cascade a high number of methods.
As to the **mixed composition** from a theoretical point of view we have many possible ways to compose the methods but in practice we may consider only the following cases (see Figure 3):

(c1) parallel, sequence;

(c2) sequence, parallel, sequence;

(c3) sequence, parallel.

We remark that the aim of a group of methods run in parallel is essentially twofold:

1. to widen the area of the participation;

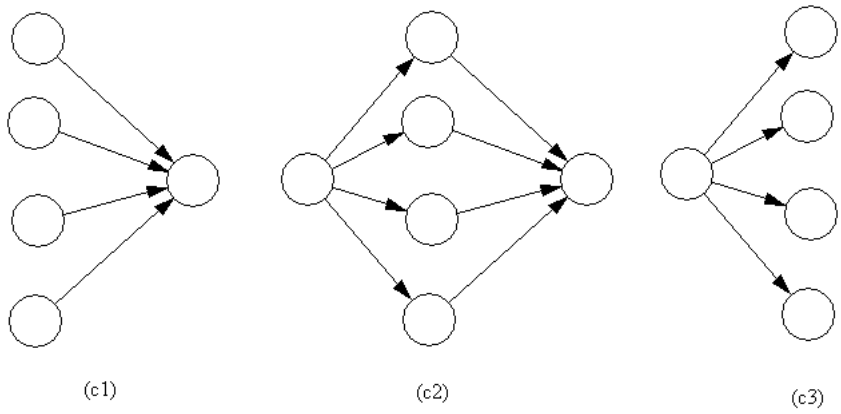

Figure 3: *Mixed composition ways*

2. to involve different categories of participants so to get homogeneous (for each category) possibly different opinions.

We note how the methods involved in the parallel phase may be both homogeneous and heterogeneous. In the former case we have a certain number of instances of the same method, each one involving a different set from the same categories. In the latter case the categories are different and the various sets are disjoint so to avoid any possible bias among the methods.
We now make some comments about the above mentioned composition methods. We note that, from an abstract point of view, we can replace any method involved in the ($c1$) and ($c3$) ways of composition with a method structured according to the ($c2$) way of composition though this may have hardly a useful meaning in practical cases and will not be investigated any further in this TR.
We note that:
(c1) describes the case where we have a set of parallel methods that, at their termination, provide an input to a synthesizing method;
(c2) describes the case where we have a method that provides input to a set of parallel methods that, at their termination, provide an input to a synthesizing method;
(c3) describes the case where we have a method that provides input to a set of parallel methods that, at their termination, provide data to a political authority that is in charge to take the final decision.
In the cases ($c1$) and ($c2$) the synthesizing method represents the interface of the set of connected methods with the set of the deciders.
We give now some examples of the three composition methods:

(c1) In this case we have a certain number of either heterogeneous or homogeneous methods that are run in parallel and that feed their inputs to a single synthesizing method. In the homogeneous case the parallel methods may

be instances of *Focus Group* or *Delphi*methods and the closing method can be either a *Charrette* or a *Citizens Jury*. In the heterogeneous case in the parallel group we can mix a certain number of instances of *Delphi* and *Focus Group* methods with the same closing method as before.

($c2$) In this case we have a single method that feeds its output as the input of the parallel methods we have seen in ($c1$). In this way we may have as an opening method an instance of *Delphi* or an *Expert Panel* whereas the parallel methods can be as in ($c1$) or in the homogeneous case can be a set of 21st *Century Town Meetings*.

($c3$) In this case we have a single method that feeds its output as the input of a certain number of methods run in parallel as in the first part of ($c2$). As a starting method we can use an expert oriented method or methods such as *The World Café* or *Scenario Building Exercise* for the generation of shared ideas or the building of scenarios for uncertain futures to be submitted to further analysis and deliberations through a certain number of parallel methods (such as instances of *Focus Group*), the synthesis phase being up to the final political deciders.

Of course he cases ($c1$), ($c2$), ($c3$) and ($c4$) do not cover all the possibilities. In Figure 2(h) we show one possible **heterogeneous composition**.
In that case we have a sequence that resembles the one that we have seen in Figure 2(s) but for the fact that the *Citizens Jury* method is executed in parallel with a series of instances of *Focus Group* and all these methods provide an input for a **closing method**, such as a *Consensus Conference* or a 21st *Century Town Meeting* or methods that require a lot of common knowledge among the participants and are well suited for dealing with highly complex or technical issues.
Of course the *Delphi* phase may be replaced by an *Expert Panel* (or any other expert oriented method) as well as by a *Scenario building exercise* if the stress is more on the building on future visions rather than on the comparison and the making of experts opinions explicit. In other cases we may have a starting *PAME* phase that gives the initial input for a small sequence of methods to be combined, in an heterogeneous way, with other methods.
In these cases we note that:

1. usually we have a closing method that gathers the outcomes of the methods along the graph, synthesizes them and gives the final product (as well as the intermediate products upon request) to the deciders;

2. the duration of he whole process is given by the duration of the longest path form the start of the initial methods to the end of the closing method;

3. if we have more that one closing method the final synthesis is up to the deciders.

Figure 4 shows another example of heterogeneous composition. The overall structure is designed around the four instances of Focus Group that are subdivided in two groups:

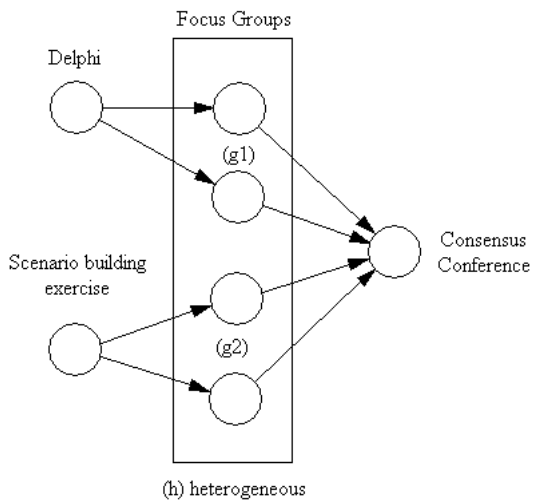

Figure 4: *Another example of heterogeneous composition*

(g1), that gets as input the outcome of a *Delphi* phase oriented to the identification and the setting of priorities among the policy goals;

(g2), that gets as input the outcome of a *Scenario building exercise* phase devoted to the definition of either extrapolative or normative "visions of future states and paths to development" (Elliot et al. (2005), page 205).

Both sets of instances of *Focus Group* perform their reasonings and give inputs to the final *Consensus Conference* that aims at getting a synthesis and a decision on a highly controversial topic having a hopefully sound knowledge of both the present (and the past) and of the possible futures.
As a closing remark we note how in composing methods in various topologies it is necessary to modify at least partially the composing methods themselves since they have been devised to act in complete isolation one from the others. With this we mean that we compose two methods A and B in the sequence $A \longrightarrow B$ it is necessary that the output of A has a form that is suitable with the expected input from of B. This constraint can be usually easily satisfied but the participants in the two methods must be aware of this to avoid any forward bias (of A over B) but also any backward bias (of B over A) since the knowledge that the output of A is to be used as the input of B may prevent some outcomes from being produced since they are useless for the overall process.

4.3 Integrating consensus methods within participative methods

In this section we build over sections 2 and 4.2 and introduce the main features coming form consensus methods (see section 3) in the framework of the

participative methods.
We may, indeed, follow two paths:

(p1) we may see the *formal consensus method* ($FCDM$) as a method similar to the ones we have seen in section 2 so that we may put it in the set M (as characterized by the parameters of the set $\mathscr{P}$) and consider it both in our "classical" framework and in the framework we have seen in section 4.2;

(p2) we may see the *formal consensus method* as a toolbox method from which to derive principles, features, techniques and roles to be applied in other methods or in their compositions.

In this section we follow path ($p2$) since path ($p1$) can be easily followed by considering the formal consensus method as a member of M (see section 3.8 for this) and applying to this extended set what we have seen in section 4.2. To do so in the current section we only recall the items that we already presented and examined in section 3.
According to ($p2$) we can derive:

(d1) **principles**;

(d2) **features**;

(d3) **techniques**;

(d4) **roles**.

As to the **principles**, ($d1$), that maintain their validity in other participatory methods we mention here:

(d1a) the fairness of every decision process so that none of the participants may feel to have been marginalized in any way;

(d1b) the good quality of the devised solutions as the end results of the decision process;

(d1c) the encouragement, support and cooperative creative resolution of the conflicts among the participants;

(d1d) the easiness of people participation, the establishing of peer-to-peer relations, the fostering of the expression of concerns and values of the participants and the admission into the discussion of any potential solution without any a priori rejection;

(d1e) the use of closed loop thinking in the use of iterative procedures for the expression and resolution of concerns until a final point can be reached (in that case this final point is a "call for consensus" that is not a proper final point in all participative methods);

(d1f) the planned use of evaluation phases after each meeting so to be able to check the quality and the effectiveness of the process.

As to the **features**, ($d2$), we mention here as portable features:

(d2a) **trust** among the participants;

(d2b) **respect** to one another;

(d2c) **unity of purpose** for the whole participants as a group with common goals;

(d2d) **non violence** as a way to carry on the group process;

(d2e) **self empowerment** to assume on oneself the responsibility of the decisions;

(d2f) **cooperation** as a shared responsibility for finding solutions to all concerns;

(d2g) **conflict resolution** as a way to settle disagreements among the participants;

(d2h) **commitment to the group** as a commitment to recognize the needs of the group as having a certain priority over the wishes of every participant;

(d2i) **active participation** as a way to effectively contribute to the process with ideas, comments and suggestions and not only with criticisms and avoiding obstructionisms;

(d2l) **equal access to power** so to overcome the differences in power among the various participants through a sharing of information, skills and power;

(d2m) **patience** since the decision process needs time to allow the creative interplay of ideas and the devising of the better solutions.

For what concerns the **techniques**, ($d3$), we have:

(d3a) **facilitation techniques** as ways to assist the facilitator (one of the key figures of the method);

(d3b) **group discussion techniques** as ways through which the members of a group can engage in an effective and fair discussions.

Within **facilitation techniques** we think as exportable all the techniques that aim at assuring a smooth flow of the discussion where all the participants can intervene and express their ideas and concerns within peer-to-peer relations. Among the techniques we mention those for **equalizing participation**, **collecting information** and **handling disruptive behaviors**. For further details we refer to section 3.
As to the **group discussion techniques** we consider as exportable and of general use the following:

(gdt1) **small group** or the subdivision of the whole group into randomly chosen or self selected small groups for a discussion among a reduced number of people with possibly different viewpoints in a reduced setting (so to ease participation of all the involved people);

(gdt2) **brainstorming** or the free wheeling production of ideas among the members of the whole group;

(gdt3) **fishbowl** where a mall number of the competing participants engage in a vivacious discussion with all the other participants standing around and listening so that, when the fishbowl is over, the whole group evaluates the fishbowl discussion;

(gdt4) **caucusing** that is very similar to the small group technique but for the fact that it involves people with similar viewpoints that can clarify and strengthen their opinions.

As to the **roles**, ($d4$), we think that the following roles are of general purpose nature so that they can be imported in any other participatory method:

(d4a) **agenda planner** as the person in charge for the definition of the agenda of every meeting;

(d4b) **facilitator** as the person that with a non-directive leadership, agenda contract and good will manages the discussion among the participants;

(d4c) **advocate** as a helper for those participants that may have any difficulty in expressing their ideas in front of many people in a conflicting setting;

(d4d) **time keeper** as the person who guarantees the respect of the various timings of the process;

(d4e) scribe figures such as **public scribe** or **Notetaker** that record and make publicly available all the deliberations as well as all that happens during the process.

In this way, in the spirit of Butler and Rothstein (2004), we see the consensus method we have described in section 3 more a philosophy that a real out and out method as those we have examined in section 2.

4.4 How to exploit the integration

The kinds of integration we have examined in this section can be fruitfully applied, for instance, during a group model building phase (Vennix (1996)). In this case the interactions among the members of the group, whose main task is the collective and cooperative building of a model, surely benefit from:

1. the use of facilitation and group discussion techniques from $FCDM$;

2. the use of different methods at different stages in which they are either directly involved or to which they provide inputs to receive outcomes that may ease further discussions;

3. the use of a $FCDM$ for the selection of the more appropriate method at every stage of the decision process.

We remark, however, how the focus of Vennix (1996) is mainly over **small groups** generally within **homogeneous settings** such as a firm or a department whereas in general we may wish to have methods suitable for more general and wide settings and precisely:

1. wide temporary groups,

2. with heterogeneous compositions,

3. with a high initial level of conflicts and disagreement,

4. with strong political taking of stands.

There features require for the adoption of an environment (and its associated tools) where conflicts may be both controlled and favored in order to foster the devising of new and creative solutions and at each stage of the process the more suitable method can be adopted.
Similar considerations hold also in the case of **Mediated Modeling** (van der Belt (2004)) whose aim is the establishing of a consensus about environmental problems and solutions. Also in this case the reaching of a consensus is a dynamic process that must last the time necessary for the definition of both a model and the associated policies for the solution of an environmental problem whose perception is shared among the participants to the process.
For further comments see section 4.6.

4.5 Consensual choice of the methods and of how to integrate them

In sections 2 we have introduced and comparatively described a set of participative methods whereas in section 4.2 we have seen various ways to interconnect them.
What has been left out is:

(lo1) how to choose a single method;

(lo2) how to choose a family of methods;

(lo3) how to choose the integrating graph structure.

In this section we intend to use the consensus method we have seen in section 3 as an alternative to the **voting methods** and the **immediate acclaim method** we have seen in section 2.5.
Within this framework we have a **formal consensus decisionmaking** method ($FCDM$) that is used to define:

(fcdm1) if a single method with a single instance is enough for a given issue or if more methods must be used;

(fcdm2) in the former case we are finished whereas in the latter case we step to ($fcdm3$);

(fcdm3) in this case we must understand in which ways to combine which methods (see section 4.2) under the given time, cost and perception constraints.

The choice of step ($fcdm1$) may be guided by considerations about the complexity of the center issue, on the availability of time (since composing more methods introduces in any case delays owed to the need of their coordination and synchronization) and on the perceived urgency of the problems associated to the center issue.
The outcome of the step ($fcdm3$) is a graph structure of a certain number of generally heterogeneous methods to be used in order to reach a decision about a given center issue. Such an outcome represents the outcome of the ($FCDM$) seen as a meta method or a method designed for the choice of one or more methods from a set of available methods and their composition according to a given graph structure.
One of the consequences of this procedure is the following. At the very start we have a heterogeneous set S of people involved in a $FCDM$ so that they have to identify the effective methods to be used (even only one) and the categories to which the participants to those methods belong. The members of S represent a sort of meta-decision level. If we denote with P the set of effective participants we impose:

$$S \cap P = \emptyset \tag{19}$$

This requirement in addition to the heterogeneity of the set S should be enough to guarantee an unbiased selection of the proper methods properly interconnected and so an unbiased selection of the members of the set P.

4.6 A practical application

In this closing section we see how the methods of cross fertilization we have examined so far can be applied in a pragmatic setting such as **Agenda 21** (Pareglio et al. (1999)) together with some more comments on the methods proposed in both Vennix (1996) and van der Belt (2004).
The analysis and description of **Agenda 21** are out of the scope of this TR and we refer to Pareglio et al. (1999). Here we only give the abstract structure of the overall process (see Figure 5).
In Figure 5 we sketch a typical **Agenda 21** process made by a certain number of phases and feedback loops. As to the phases we have:

(1) general principles and shared local vision,

(2) problems and their causes,

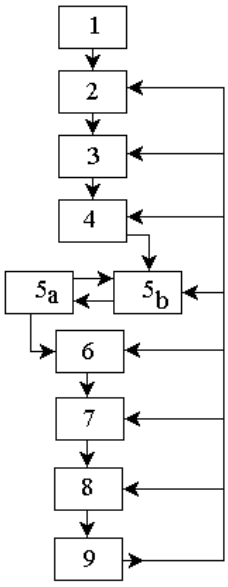

Figure 5: *The structure of an* ***Agenda 21*** *process (details in the text)*

(3) aims of the environmental action,

(4) priorities of intervention,

(5_a) targets,

(5_b) carrying out of options,

(6) thematic programs,

(7) action plan,

(8) carrying out and monitoring,

(9) evaluation and revision.

We remark how the whole process may be framed both at a local scale as concerning a local community (a small/medium size city, a district) but also at wider areas as concerning a whole region.
The process opens with a formal decision from a local authority that:

1. decides on the opportunity to set up an environmental forum so to attain the widest involvement of the local community,

2. establishes (together with the environmental forum) the general principles and a shared local vision,

so to start up the process of management and goal oriented planning of the local environment and its perceived problems.
The process develops according to the structure of Figure 5 up to the closing phases 8 and 9: the former is involved with the carrying out or implementation of the interventions that have been decided all along the process itself whereas the latter is involved it the monitoring and the evaluation of the effects of those decisions over the environment. The outcomes of the evaluation and revision phase triggers the main feedback loops so that it is possible from here to go back at the proper phase and make the needed corrections.
As to the feedback loops they are easily identified in Figure 5 and originate from the evaluation and revision phase in order to point to the phase form which the process must be properly reviewed so to obtain a betterment of the whole process itself.
We remark how a feedback loop is present also between the phases 5_a and 5_b where targets influence and are influenced by the carrying out of options.
From an even superficial analysis of Figure 5 we see how (if we collapse phases 5_a and 5_b in a single phase) we are in front of a sequential composition of phases where every phase can benefit from the use of the proper participatory method. We note, indeed, how the presence of feedback loops from phase (9) does not significantly modify the succession of the other phases but for the fact that some of them may be repeated more than once over a modified outer situation.
As to the participatory methods:

(pm1) at every phase but the last one where a decision must be taken we can imagine the participants in the **Agenda 21** process decide which methods are more suitable and how they must be connected,

(pm2) at the evaluation and revision phase the participants may adopt a $FDCM$ method so to consensually decide from which phase the **Agenda 21** process should be restarted so to correct the flaws of the process at the right level.

As to to $(pm1)$ we note how the participatory methods include also $FDCM$ though such a method can play more useful roles either as a toolbox method or as a meta-method.
As to $(pm2)$ we note how obviously other methods can be used but how $FDCM$ for its flexibility may represent the best choice to perform the task of selecting the target phase of a feedback loop.
As to both **Group Model Building** and **Mediated Modeling** we stress what follows.

1. **Group Model Building** can be better used as a supporting tool in phase 2 (so to exploit its capabilities to identify problems shared by group of people) but also in phase 7 owing to its capabilities of using System Dynamics for the devising of policies through which to act on the systems.

2. **Mediated Modeling** can be better used in phases $3, 4$ and 6 so to exploit its capabilities to foster both a consensus on a decision and a commitment

on that decision. Other key points in favor of this method are its capability to foster a shared vision of the future in presence of multidimensional complex problems and its ability to exploit potential conflicts and foster the sharing of information. In this framework System Dynamics allows a better understanding of the dynamic complexity of both the problems and of the process itself.

Of course both **Group Model Building** and **Mediated Modeling** can represent valuable tools at every phase of an **Agenda 21** project where its participants have to devise models to describe problematic portions of the reality.

A Appendix: the "Law about participation"

A.1 Introduction

In this section we present and analyze the law of "Regione Toscana" about participative decisionmaking. That law is denominated "Norme sulla promozione della partecipazione alla elaborazione delle politiche regionali e locali" and it is a "Legge Regionale" that is dated 27 December 2007 and has been promulgated on January 3 2008. In what follows we are going to call it simply "Legge sulla partecipazione" or "Law about participation" (LAP).
This law represents the conclusive act of a process that started at the beginning of 2006 and is destined to be abrogated at the end of 2012 (see Article 26, Terms of the law) with the proviso that the "Consiglio Regionale" may decide to confirm or modify it.
This law undoubtedly represents a major improvement since it establishes the need of grounding public policies on participative methods but, on the other hand, it may become a hindrance since it may stiffen up participative processes and turn them in a mere set of rituals.
The analysis we present in this Appendix is based on Cioni (2007) (where we give a description and a critical analysis of the *electronic Town Meeting* within a wide framework) and also on the following materials:

(tl) the official text of the law;

(fr) the final report of the "Electronic Town Meeting" that took place on November 18 2006;

(vm) various materials from "Regione Toscana", also from the site **www.regione.toscana.it/partecipazione**.

We open this section with a description of the general framework of the law then we present the process that brought the law into being and thereafter we describe the structure of the law, the processes that are triggered by the law and who can resort to the law and through which procedures and for getting what. We close the discussion with some remarks and proposals aiming at improving the flexibility of the law.

A.2 The general framework

The law aims at characterizing both global (or involving the whole "Regione") and local (involving administrations of lower level such as "Comuni" and "Province") participatory processes, provides for some forms of support from "Regione" itself and sets up an independent "Autorità regionale per la partecipazione" that, in what follows, we are going to call simply **Authority**.
The main features of the law, expressed in a sequence of heads, are:

(1) the Authority with its tasks and duties,

(2) the rules for the Public Debate on the so called "big projects" or "big interventions"[13],

(3) the support from the "Regione" to participative processes at local level.

We remark how the law speaks of Public Debate about "big interventions" without either specifying if it is the same thing as the French Debat Publique or defining its main features if it is something different. Even in the case the Public Debate is the same thing as the Debat Publique the law should at least contain some normative references so to recall and clarify the main features of the method itself.
In this way the law establishes an independent Authority that acts as a filter, admitting or rejecting requests, and as an inquirer, since it has the faculty to ask for more information and data about each request before deciding if it is admissible or not.
The law, moreover, introduces two levels of intervention:

1. at the level of "big projects" or at a global level (see articles $7, 8, 9, 10$);

2. at a local level (see articles $14, 15, 16, 17$);

without being too clear about which are the main features of a project that classify it as big and, on the other hand, which are the big projects that trigger the regional support to participative processes organized by local authorities.
The law, in a certain way, makes interventions at a local lever easier than those at the global level. This greater easiness is evident from a comparison between the two procedures and will be examined in some detail in section A.8.
Other meaningful features of the law include:

1. an activity of training of the supporting personnel for participative processes;

2. a protocol between "Regione" and local authorities within the territory of the "Regione";

3. a coordination with other existing laws to make LAP really effective;

4. a link between the LAP and the tool of consultative referendum;

5. a link between participative processes and local elections.

All these features will be analyzed in more details in section A.10. For the moment we remark how the two levels (global and local) are not too well defined and characterized.

[13] We consider the terms "project" and "intervention" as synonyms since, for the law, both are at a stage antecedent any concrete act.

A.3 The declared intents of the law

The *LAP* has been strongly pleaded by Agostino Fragai, "Asessore regionale alle riforme istituzionali e alla partecipazuione", with the support the parties that back up "Giunta Regionale", some political scientists (among which we cite Professor Bobbio and Professor Ginsborg) and the association "Rete Nuovo Municipio" that pools many "Comuni" of Tuscany. "Rete Nuovo Municipio" is very active in Tuscany on the themes of participation.
The declared intents of the *LAP* are:

1. the need to look for new ways of participation with new paths and shared rules to deliberate about big and small problems of a community;

2. the need to define ways for the search and evaluation of all possible solutions through a dialog and a confrontation within definite time bounds;

3. the need to bridge the gap among the elected representatives and the voting citizens, the former having and keeping the final responsibilities of the political and administrative decisions the latter living in a sort of separate world where political and administrative decisions are seen often as impositions from the top.

As we see the intents are really admirable. Unfortunately, and this is one of the aims of this Appendix, *LAP* missed almost all of them. Even the accent on the voting citizens and the link with the political times (the elections as the only way for the citizens to reward or to punish the politicians) may rise some doubts since in many cases planned intervention involve wide areas and long times that go far beyond the space and time scopes of the administration to which some voting citizens refer. Moreover we note how not all citizens are voting citizens, owing to age constraints or because they are still unborn, but, anyway, will be those who will suffer the effects of present possibly wrong decisions.

A.4 The process to the law

As we have already seen (see section A.1) the *LAP* is the product of a process that lasted for two years and that can be seen as made of two phases:

1. a starting phase that ended with the "Electronic Town Meeting" that took place on November 18, 2006, in Carrara;

2. a closing phase that ended with the promulgation of the law on January 3, 2008.

The process is characterized also by another phase whose aim is the appointment of the Authority. Without the Authority the law is useless, an empty box full only of good intentions.
In addition to the two phases, each with its closing event, the road that brought to the law had the following milestones:

(m1) the basic idea of a law about participation came out at the end of 2005;

(m2) the idea entered into the political agenda at the beginning of 2006;

(m3) the process really started on January 12 2006 with a public meeting with about 300 participants;

(m4) the following step was on May 19 2006 an international congress with 350 participants and entitled "The ways of participation";

(m5) from either "Regione Toscana" or "Rete Nuovo Municipio" about forty meetings or workshops were organized in various places of Tuscany

(m6) the **electronic Town Meeting** in November 2006;

(m7) a certain number of institutional steps that brought to the approbation of the LAP at the end of 2007.

Just from the start it was clear that the law about participation should have been, at least partially, defined through a participative process. This is the basic reason for the many meetings and for the closing step of the preparatory phase, the **electronic Town Meeting** (we do not discuss this phase in detail here and refer to Cioni (2007) and to section A.5).
All the way to the law has been supported by [external] consultants such as:

1. people form academic world (Professor Bobbio and Professor Ginsburg);
2. a society engaged in the organization of participative events ("Avventura Urbana");
3. people from "Regione Toscana" of "Osservatorio elettorale" and "Politiche per la partecipazione";
4. representatives from the "Rete Nuovo Municipio'.

All those people have formed the so called **technical table**.
The basic ideas are (see fr):

1. participation is a "strong" thought more effective and well-timed tool for the attainment of then goals;
2. participation is a different way of showing off the government of public matters;
3. participation may be realized in many ways such as "Public Debate", "Town Meeting", "Focus Group" and many more. Such ways have been presented and debated during the international congress (m4).

We comment some more on the points (m4) (international congress) and (m6) (electronic Town Meeting) and the tasks of the **technical table**.
During the international congress there was the presentation of a wide spectrum of methods such as:

1. Public Debate for big infrastructures;

2. Participative Balances;
3. techniques of urban renewal;
4. involvement of common citizens through random selection (as it happens for instance in Citizens Jury);
5. Town Meeting.

Unfortunately all this richness is not reflected in the *LAP* where:

1. for what concerns the "big interventions" the law mentions only the Public Debate without any consideration of the fact that there should be a correspondence between the problem to be faced and the method to be used whereas
2. at the local level the law refers generically to participative processes by listing some features that must be satisfied more from the proposed project than by the adopted method (see Article 15.

As to the latter point we fear that the stress on the project more than on the method may turn in the adoption of voting oriented tools with a low level of effective participation.
The electronic Town Meeting took place after a preparatory phase of the contents but without these contents were communicated to the participants of the meeting and so leaving to them only the definition of the details of the *LAP*. Such details have indeed been defined by the **technical table** prior to the start of the meeting. Such a "table" proposed a list of topics to be discussed and deliberated among which we mention:

1. what is to be meant as participation?
2. which requirements mus be satisfied by participatory projects?
3. who can promote such participatory projects?
4. the choice of such projects should be assigned to an independent subject with which features?

For some tentative answers to such questions we refer both to the main text of the present *TR*, to this Appendix and to Cioni (2007).

A.5 A few notes on the *electronic Town Meeting*

The *electronic Town Meeting* is a variation of the 21st *Century Town Meeting* more technology oriented. In this context it has been used to frame the final event of the opinion collecting phase.
The structure of the event is simple but with this simple structure it is possible to debate very complex issues and produce complex recommendations and outcomes. In this case the outcome took the form of a series of opinions from

the participants about some aspects of the *LAP*. Such opinions, at least in part and in theory have been included in the *LAP*
The method has been used in this case only under the form of a closing event but as a method of the family of the 21st *Century Town Meeting* it may allow the involvement of thousand of people that deal with complex and not necessarily controversial issues using this very expensive method. The method is open to anybody assumes a high knowledge but not a high maturity on the center issue.
The closing event has a two level structure since it is based on:

1. a certain number of small group, each with a Facilitator and a Notetaker, that allow local interactions,
2. a set of supporting technologies (wireless connections, screens, videoconferencing devices and tools for electronic voting) that allow a local to global to local connection through the mediation of the Theme Team (see further on),
3. a certain number of figures (a global Facilitator and a group of people of the Theme Team.

The task of the people of Theme Team was very delicate since they had to:

1. act as filterers of the communications coming from the small groups,
2. synthesize those communications and extract from them both key phrases and questions to be posed to all the participants and on which these had to vote electronically.

The process is very complex and, for many aspects, very prone to be biased. In this short section we want to underline only the fact that the process is characterized by a succession of phases:

1. presentation of an issue,
2. local discussion,
3. sending of comments to the Theme Team,
4. filtering and synthesizing through a certain number of closed questions (so with a certain number of possible answers),
5. electronic voting through the selection of only one of the possible predefined answers.

The succession of phases repeated for an introductory session and three real and effective sessions. Each of the real sessions had a center issue, a discussion aiming at the production of some comments and some questions to be answered. At the end of each session from the Theme Team there has been the diffusion of the data of all the ballots of that session.
The sessions had been designed so to be independent though an analysis of their center issues:

1. designing together(whose key question was "why is it important to design together?"),
2. dealing with the plans of big interventions (whose key question was "why is it important to deal with the plans of big interventions?"),
3. knowing more (whose key question was "why is it important to have more information?"),

is enough to cast some doubt on such claimed independence.
The outcome of the whole process was a set of recommendations of on some marginal issues that entered as empirical contributions in the formulation of the law.
For further details we refer to Cioni (2007) and fr. Here we only note how the *electronic Town Meeting* maybe was an anticipation of what the LAP may represent: a beautiful toy with no real possibility to effectively influence difficult and controversial decision processes.

A.6 The structure of the law

The structure of the law is simple enough, at least if we compare it with other Italian laws, and the law is short, being composed of only 30 articles, 10 of them being devoted to a coordination with other laws and to a set of conclusive norms. The law is structured as 8 heads, some of which are divided in two sections, each containing a small number of articles, five at the most.
The main points of the law are contained in the following heads:

(I), that states the principles, defines those that can access the participative processes and sets up the Authority;

(II), that describes the procedures to be adopted in case of "big projects";

(IV), that defines the regional support to participative processes at local level.

As to the principles stated in (I) we note how the law defines the participation to the elaboration and to the formulation of regional and local policies a right that the LAP makes effective since it aims at the fulfillment of a certain number of general principles that are contained in the Statute of "Regione Toscana" such as: the fostering of participative solutions and both social and institutional subsidiarity. The social subsidiarity favors the autonomous initiative of citizens in the participative processes and in the assignment of proper values to the diffuse and non formalized knowledges whereas the institutional subsidiarity provides for supports and incentives to local authorities to the carrying out of participative processes both for their policies and for regional policies.
As to those who can access the participative right stated in (I) we think that

the law (giving this right to residents[14], qualified visitors[15] and applicants[16]) defines a fuzzy audience and this fuzziness may cause some problems at the applicative stage, see further on.
As to (II) we only remark here that the law tries to formalize the following aspects:

1. the request and admission of a Public Debate;
2. the development of a Public Debate;
3. the conclusion of a Public Debate;

according to an open loop approach that, for instance, does not provide for any way of handling the proposal of a new project on the same issue on which the Public Debate has already occurred. The law, moreover, does not provide a clear enough definition of what a "big project" is and this aspect leaves space for a dispute on the applicability of the law itself, further comments in section A.8.
As to (IV) the law defines the following features:

1. the subjects that can request for a regional support and the typologies of support;
2. the qualifications of admission and the criteria of priority among the requests;
3. the admission and the modality of support.

Also in this case we refer to section A.8 for further comments. At this level we only remark that it is not easy to understand the need to define criteria of priority among requests when the support from the "Regione" may be only of methodological or informative nature. Also the minimum percentages that are defined by Article 14 and the dates for the presentation of the requests (ibidem) contribute to the definition of a strange non linear model. Such non linearity is worsened by the points that concern either the local authorities or the school institutes as applicants without any constraint of representativity.
As to the **minimum percentages**, the law defines a relation between the amount of residents in a given territory x and the minimum required percentage of the applicants y as:

$$y = \alpha x \tag{20}$$

where α is a proportionality factor that may assume one of the following values:

0.05 if $x \in [0, 1000]$;

[14] With this term we denote the resident citizens including both foreigner and stateless persons.
[15] With this term we denote all the people that work, study or stay in a given territory where a participative process should occur.
[16] With this term we denote all the people that may demand to be allowed in a participative process since they have some interests in the territory or in the object of the participatory process. They can be admitted or not by the responsible of the Public Debate, see further on.

0.03 if $x \in [0, 5000]$;

0.02 if $x \in [0, 15000]$;

0.01 if $x \in [0, 30000]$;

0.005 if $x > 30000$;

All this seems a little bit strange since, for instance, $x = 1000$ residents (not to be seen in the broad sense of Article 2) need $y = 50$ applicants but a "population" equal to:

$$x = 1600 < \frac{50}{0.03} \tag{21}$$

requires less applicants (precisely $y = 48$). In a similar way if $x = 15000$ the law requires at least $y = 300$ applicants but the same holds also if $x = 30000$ when the applicants are again at least $y = 300$. What may be worse is that the same holds also if $x = 60000$. Again the applicants are at least $y = 300$.
The LAP seemingly distinguishes between the right to ask for a participative project (that is guaranteed to the residents) from the right to participate in the participative processes (that is guaranteed to the subjects identified by Article 2 but evaluates the minimum percentages of requiring residents to the number of inhabitants in a given area, number that depends also on many of the categories of Article 2. We stress this fact: the law contains an ambiguity since it states that a request may be made by a given percentage of residents over a certain number of inhabitants. Unfortunately the concept of resident and inhabitant do not match precisely.
The above mentioned set of rules seemingly penalizes small centers, favors medium centers (up to 60000 residents) and defines a linear relation among big centers. This may create some problems but reflects what happens at regional level. At this level indeed the law makes provision for a percentage of 0.50% of the residents that require a Public Debate to make it possible (see Article 8).
As to the dates the law statically fixes a certain number of pairs (t_a, t_p) where:

1. t_a defines the deadline of application presentation, possible dates are $March$ 31, $July$ 31 and $November$ 30;

2. t_p represents the corresponding starting date of the projects from which on a participative process may be required, possible dates (in a one-to-one correspondence with the preceding dates) are May 10, $October$ 10 and $January$ 10.

If this was not written in the law we may think of a joke, but it is true, down in black and white. First of all it is not clear what does it mean the start of a project: the first public presentation? the first discussion on newspapers? the first discussion in an elective assembly? the first request for an authorization? Then it is not clear why the request must come before the project starts. What happens if the proponent of the project drops it having known of such a request

or if they modify it? How can the presenters be able to respond to the requests of the Authority before the contested project is started? What happens if the adhesions collection takes more time and a deadline is exceeded of a few days? As we will see in another section the timings are important since, see Article 7, a Public Debate over "big projects" may be organized only before any administrative deed concerning the preliminary project is issued.
Other heads represent either the interface between the law and its context of norms and laws or some tools that concern both communication, information and the training of supporting personnel. The law enters in a rich legislative context mainly centered on concepts such as concerting and consultative referendum so that it has been necessary to provide it with some articles of coordination and harmonization. Within this framework we mention the following heads:

- (III), that defines some practical tools;
- (V), that defines a protocol among the "Regione" and the local authorities within its territory;
- (VI), (VII) and (VIII) that define the interface of the law with its legislative context.

As to head (III) we underline how it deals, in a rather vague way, with:

(1) how to spread the information about participative processes,

(2) how to train support personnel of participative processes.

As to (1) we note that the law establishes a correlation between the right to participation with the wide spread of information that is too simplistic since it may be a necessary condition but it is surely not sufficient.
As to (2) we note that it is hard to design a training activity before knowing which participative processes will be activated case by case at the local level. We remark how this is true also at the global level since the law speaks of the *Public Debate* without either stating clearly that it coincides with the *Debat Publique* (that is used in France in case of "big projects" such as the TGV) or giving an outline of the method if it is something different.

A.7 The main figures of the law

The main figures provided for by the law are, in order of apparition:

(mf1) the holders of the participative right (Article 2);

(mf2) the Authority (Articles 3, 4, 5 and 6);

(mf3) the supporting personnel (Article 13);

(mf4) the applicants (Articles 8 and 14);

(mf5) the manager of the Public Debate (Articles 2, 9 and 10).

Not all these figures play a clear and well defined role. We remark, for instance, that as to ($mf3$) the LAP defines the need of training activities without giving any detail about the ways in which the acquired skill may be employed, either within the structure of the Public Debate or within one of the local participative activities. Notwithstanding a rich literature about these supporting figures (Vennix (1996) and van der Belt (2004) among the many references) the law is extremely reticent about them and only introduces the **manager of the Public Debate** (see (mf5)). Such a figure is introduced in Article 9, head 1, point c, but has no well specified task or duty but to admit the applicants of head 1, point c and to deliver to the Authority a report of the adopted Public Debate with the arguments and problems raised during the debate itself and the proposals that originated from it.
As to ($mf1$) the law defines (Article 2) the categories of those who can attend to participative processes. Such categories are referred to the territory where a participatory process has to occur and include:

1. the residents even if they are foreigners or stateless residents;
2. those who work, study or live in that territory;
3. Tuscan people that reside abroad when they are in Tuscany;
4. upon request those people that have some interest in that territory or in the object of the participatory process, the so called concerned people.

We think that at this level the LAW may show the following problems:

1. the set of those who can intervene is fuzzily defined and include people whose level of involvement is low in both time and space to let them intervene in decisions that span over longer periods (than the period they spend in a territory) of time and cover wider areas (than the territory where they exert their activities);
2. it is not clear on which basis the manager/person responsible of the Public Debate can admit or reject the applications of the concerned people;
3. it is not clear what is meant with the **possibility to intervene**.

The lack of clearness in the admission/rejection introduces a lot of arbitrariness in the decisions of either admittance or rejection and a lack of transparency in these processes. Apart from numerical considerations about how many people can make such requests the flaws we have noticed pose problems of the decisions being democratic.
As we have already seen in section 2 of this TR the possibility to intervene in a participative process depends:

1. on the level of involvement;
2. on the timing of involvement.

If the involvement is at a later stage and at a consultative lever (as it happens in referenda) we cannot speak of a real and effective involvement that, see for instance van der Belt (2004) and Pareglio et al. (1999), requires an early involvement in the identification of a problem, the devising of the possible alternatives and the shared building of descriptive models (see Vennix (1996)) for the assessment of possible future scenarios and policies.
We moreover find this wide concession of the participative right in partial contrast with what is stated by Articles 8 (head 1) and 14 (head 1, point a) where the law states that only the residents can ask for the organization of a participative process. We comment more on this sensitive point in section A.8.
The Authority (mf2) is undoubtedly the key figure provided by the law.
The Authority's main features are:

(f1) it is a single decider authority with a holder selected according to either well defined competencies in public law and political sciences or in participative methodologies and practices (or hopefully in both);

(f2) it is appointed by "Consiglio Regionale" for the whole period of validity of the LAP;

(f3) it has a seat nearby the "Consiglio Regionale" and it is endowed with personnel (possibly trained according to Article 13 but the law leaves this point indefinite) and collects an office indemnity.

The Authority's duties include:

(d1) the evaluation and the admittance of Public Debate proposals on "big interventions" and the taking care for their carrying out;

(d2) the evaluation and the admittance of the regional support to local participative processes;

(d3) the elaboration of the guidelines for the management of local participative processes;

(d4) the evaluation of the performance and the effects of the participative processes;

(d5) the drawing up of an annual report on its own activity and its delivery it to "Consiglio Regionale";

(d6) the diffusion (also through telecommunication infrastructures) of all the documents and the knowledge about the presented projects, the finished projects and their final reports.

It is evident from this listing how there is no feedback of any kind, no evaluation, no periodic verification and no adjustment on the procedures that the Authority adopts. We are in full open loop both with regard to the "Consiglio Regionale" and all the other entities with which the Authority enters in contact and the other authorities that can promote participative processes. The Authority has,

moreover, a predefined expiration date (that coincides with that of the *LAP*) independently from any performance criteria and may represent the perfect tool for the sabotage of the *LAP* itself.
Moreover we think that point (d3) should be fixed from the start (and in a formal way) and not be changed from there on to avoid any bias on the evaluation of successive projects and any discrimination among projects. Another sensitive point is (d4) since it is not clear which may be the effects of a participative process and how it may be possible to measure and assess them. The same holds for the key point of performance measurement and evaluation. One can imagine that relevant criteria are the respect of the budget and of the time constraints but this may give rise the paradoxical result that the best participative processes are those that ends prematurely and spend the less without any real conclusion nor any improvement in the decision process.
We cannot state it for sure but the duties that *LAP* assigns to the Authority are both too strong and too weak, at least with regard to the local participative processes. Too strong since the Authority can condition (mainly through the timings and the request for information) the potential proponents and too weak since, once a participative process has been admitted to support, the Authority has no possibility to control the use of the allotted resources and the quality of the process itself.
Last but not least, we comment on the **applicants**.
LAP introduces the applicants firstly in Article 8 (with regard to the "big interventions") and then in Article 14 (with regard to the local participative processes). Participatory projects at a local level are briefly characterized in Article 15 at a very general level and leaving ample room for distortions and for the adoption of either voting methods or referenda as participative processes.
In the case of Article 8 the applicants may be:

(a) the public or private subject that proposes the "big intervention";

(b) the subject that contributes to the carrying out of the "big intervention";

(c) the local authorities (trough at the most seven representatives) whose territories are involved in the "big intervention";

(d) a percentage of at least 0.50% of the resident citizens, foreigner and stateless persons older than 16 years also after the initiative of associations and committees.

As to (*a*) we do not see any real advantage for a private proponent to ask for a participative process since the *LAP* prevents any intervention after the preliminary project phase has been reached (Article 7, head 1).
As to (*b*) we find it very obscure and we really do not understand the use of the singular form. What does happen if more that one subject contribute to the carrying out of the "big intervention"?
As to (*c*) we find that (see Article 8 point 2) the imposition of an upper bound to the number of representatives of the involved local authorities may introduce a conflict factor among such authorities in full contrast with the spirit of *LAP*.

As to (d) we find that it is a too strong constraint and it is in contrast with (c). It is not clear why a Public Debate may be required by the involved local authorities only (that may represent even a small percentage of the population of the "Regione") but if the request comes form the citizens it is bounded by a quorum evaluated on the population of the whole "Regione". We find this asymmetry (that is present also in the case of local participative processes) fully unjustified and really disappointing.
In the case of Article 14 the applicants may be:

(e) one of percentages of the residents we have seen in section A.6;

(f) single local authorities or groups of local authorities also with the support of citizens, residents and associations;

(g) single or grouped school institutes after a deliberation of the collective organs of a school also (but not necessarily) with the support of which at point (e).

As to (e) the LAP states that the stated percentages must be evaluated on the territories of one ore more "Provincie", "Comuni" and groups of "Comuni" where a participative process has to occur. At this level it may be hard to solve the problem of evaluating the affected area over which the right percentage of residents over the inhabitants must be evaluated.
This is a very strange point since the possible opponents may press for a widening of the territory (so to make harder the exceeding of the needed quorum) whereas the possible proponents are more favorable to a reduction of the territory to an area where the problem to be debated is more urgent. We note that in territories that are only marginally affected by an intervention or are not affected at all it is harder to involve the citizens so the widening of the area is an hindrance for the proponents of a participative process and favors its opponents (that the LAP forgets to mention) whereas on a smaller territory affected by an intervention it is easier to mobilize the citizens and exceed the needed quorum.
As to (f) and (g) we remark how they pose again the problem of asymmetry we already noticed about points (d) and (b) with the aggravating that a small school institute may potentially weigh more that some thousands of citizens.

A.8 The two levels of participative processes

The LAP explicitly defines two levels of participative processes:

(l1) in Article 7 it is introduced the **Public Debate** over "**big projects**" or "**big interventions**";

(l2) in Article 14 the LAP introduces the possibility to give support to local participative processes.

As to ($l1$) we remark that Article 7 opens head II and is closely related to the Articles $8, 9$ and 10.
Article 7 is subdivided in three points.

(7.1), that vaguely defines the concept of **big intervention** as having "possible heavy environmental, territorial, social and economical impacts" and states that the Authority may organize a Public Debate on the objectives and features of the projects in a phase that precedes any administrative act concerning the preliminary project. It is not clear how a debate can involve the features of a project before the preliminary project has been drawn.

(7.2), that states that a Public Debate may be organized also in phases that follow that of point (7.1) but only upon request of the public subject that is competent for the carrying out of the "big intervention". In this case it is not clear up to which phase it is possible to organize a Public Debate, up to the testing phase? More on this issue in section A.9.

(7.3), that establishes a link, in the cases of "big interventions", between the Authority and the "Garante regionale della comunicazione".

Article 8 is subdivided in four points of which the first two have already been examined elsewhere. As to the remaining three points we have:

(8.3), that gives 30 days to the Authority to admit or reject with a motivation a request of opening a Public Debate after the acquisition of the non binding opinion of the involved public authorities and the representatives of the proponents (but the law provides for this figure only in one case).

(8.4), that states that the Authority may ask to the proponents of the Public Debate further details and technical documentation about the project on which they intend to open the participative process or the Public Debate. After point 1 of Article 7 it seems hard that the proponents can provide detailed and meaningful technical documentation about the interested project and, moreover, it seems that such requests should be made to the subject that is competent for the realization of the "big intervention".

(8.5), that states that to admit a request the Authority evaluates if the impact of the intervention is high or not and verifies if no administrative act concerning the preliminary project has been taken. This point gives full discretion to the Authority as to the acceptance or refusal of a request since the Authority may hold that the challenged project has no heavy impact and so no participative process may be opened about it. The *LAP* does not provide for any independent authority to which the proponents may appeal in case of rebuttal nor it says anything about the possibility to open a local participative process over the same project and using the already collected adhesions. The impression is that the law has been made so simple so to be complex (and useless?).

Article 9 regulates the course of the Public Debate and it is subdivided in 5 meaningful points.

(9.1), that states that the Authority, in the same deed that admits a request, fixes at six months (with a justified extension of no more than three months) the duration of the debate, fixes the phases of the debate so to guarantee the widest information and participation and assure the maximum fairness and parity of all the view points and, lastly, designs the manager of the Public Debate with his specific duties.

(9.3), that states that the start of the Public Debate suspends the adoption and the accomplishment of all administrative deeds under the competence of the "Regione" that are associated to the "big intervention" on which the debate is started.

(9.4), that states similar conditions for local authorities that subscribed the protocol with the "Regione" (Article 18) or that decide in that way. The suspension concerns all those deeds whose adoption may bias in any sense the debate in progress.

(9.5), that states that the suspension of (9.3) and (9.4) is managed by the authority that points out those deeds.

(9.6), that states that is the Public Debate starts after the presentation of the preliminary project (only upon request of the public subject that is responsible for the carrying out of the "big intervention") the suspension is only partial and cannot affect deeds that are governed by either state laws or from constraints from European Union.

From (9.1) we may derive the idea that every Public Debate is carried out well guaranteeing fairness and parity. But what happens if, ex post (see (10.2)) the Authority discovers that this was not true? Should the debate be repeated? should it be corrected and repeated in some way?
The **manager of the Public Debate** is a strange figure with unspecified tasks (the law only states that this figure can admit some interested people (see Article 2, point d)) but for the fact that such figure gives back the final report of the Public Debate to the Authority. We think that this figure and his tasks should have been better defined by the law itself.
We note a potential problem with (9.3) and (9.4) in absence of the protocol if the "Regione" suspends the deeds of its competence but the local authorities act differently. Moreover we think that all these articles are a smoke curtain since after the publication of the report and the public declaration of the proposing subject P all the suspensions automatically are annulled (see Article 10 point 5).
Article 10 defines the conclusion of the Public Debate and it is subdivided in 5 points.

(10.1), that states that, at the end of the Public Debate, the manager of that debate delivers to the Authority a final report of the adopted process, of the raised arguments during the debate as well as of the conclusive proposals from the debate;

(10.2), that states that the Authority must verify the correctness of the participative process and make the final report public;

(10.3), according to which, within three months from the publication of the report, the proposing subject P must publicly declare that he wants:

- (a) to give up with the project or to present an alternative project,
- (a) to propose modifications to the project by pointing out the feasible ones,
- (a) to go on with the project though defending the reasons of such a choice.

(10.4), that assures an adequate publicity of the final report of the Public Debate and the answer of the proposing subject.

(10.5), that states that the publication of such an answer cancels the suspension of any administrative deed concerning the project.

We find this Article really funny. Let us imagine a scenario. We have a proposal of a "big intervention" from a subject P. There is a request of a Public Debate. The debate is admitted, carried out, finishes and produces a very critical report. Three months of wait then P states that they are going to go on with the project and present the slightest argumentation of the choice. This is enough for P to obtain the needed authorizations as if the Public Debate never occurred. Funny. Why should P give up? Why should P propose modifications unless they are favorable to P itself? The simple act of declaring a choice is enough to have all the administrative acts freed from any suspension.
The problem is that the reasoning is open loop. There is neither an indication on how to proceed if P proposes an alternative project since also in this case the law goes on open loop and the presentation of the new project is enough to nullify the Public Debate, independently from how much the new project is alternative as compared with the old project.
As to $(l2)$ we remark that Article 14 opens head IV and is closely related to the Articles $15, 16$ and 17.
Article 14 has already been partly commented elsewhere (see section A.7) so that we comment here only points 3, 4, 5 and 6 and refer for comments on point 2 to section A.9.

(14.3), this point characterizes some more the subjects of point (14.3).

(14.4), this point states that a firm or a contractor can present a request of support to a participative process only about its own projects or about interventions with an heavy environmental, social and economical impact on the interested territory with the support of the citizens defined in Article 14, point 1.

(14.5), that widens the spectrum of the participative projects on which the subject at point 1 of Article 14 can present a request for support.

(14.6), which defines the various forms of support to the admitted projects as:

(a) financial support,

(b) methodological support,

(c) assistance in the communication through technical tools.

These point are almost neutral but for point (14.6) since it is not clear what is meant with *methodological support* and why such a typology, as well as the pure assistance, may give rise to the definition of priority criteria (see Article 16). Article 15 define the admittance requirements whereas Article 16 define the criteria of priority of the requests and Article 17 defines the admission and the ways of backing. We briefly present each article and comment them in turn.

(15.1), which defines the requirements that must be satisfied by the participatory projects in order to be allowed by the Authority to get support. Such requirements include: a precise definition of the object of the participative process, the indication of the current phase of the concerned decision process, sure timings of carrying out (within six plus three months), proper participative tools and methodologies, process management from a neutral and impartial subject so to guarantee neutrality and impartiality, inclusiveness of all procedures, inclusion of all cultural and social groups, maximum spread of the needed information from before the start to after the conclusion of the process and, lastly, a prediction of the costs.

(15.2), that states that if a participative process needs more that six months (with the addiction of three months to be allowed by the Authority) it is mandatory (or it is a condition for admission) the precise indication of the timings and the phases of the proposed process.

(15.3), that states that the applications of the citizens and school institutes must specify the availability of their own's (even only of organizational type) resources.

(15.4), that states some further requirements for the applications from local authorities such as: a commitment of acceptation of the outcomes of the participative processes or to justify a partial or null acceptation, the adhesion to the protocol with the "Regione", the accessibility of the whole relevant documentation of the participative process and the availability of own's organizational and financial resources.

This Article is a real Caudian fork. Point (15.1) is a mix of ex-ante and ex-post conditions that are hard to satisfy and to verify. It is not clear what may happen if the ex-post checks are failed. The need to fully specify the phase of the decision process may go beyond the possibility of the common citizens as well as the definition of tools and methodologies. It is not clear the need to specify the costs when the law admits a limited methodological support. It is not clear how citizens can identify a neutral and impartial external manager and who can judge these features and admit or reject a possible candidate. It is not clear

what happens if some social or cultural groups silently boycott the process and, upon its completion, claim to have been either excluded or marginalized.
Point (15.2) requires that the duration of a process if established from its start since any dilation must be specified and justified (with a description of the timings and the phases in the application) so that no real flexibility is allowed.
Point (15.3) states that the applications of citizens and residents (with a contradiction with point (14.1) which specifies that only the residents may apply) must be supported by at least an organizational structure but it is not clear who can certify if a structure is enough organized to be admitted.
Lastly, point (15.4) imposes to the local Authorities, on one hand, to be possibly self-sufficient and, on the other hand, to adhere to the protocol with the "Regione" (see further on) to get either methodological support or technical assistance (see (14.6)).

(16.1), that defines as having priority the projects that satisfy a long list of criteria associated to the involved categories and territories and the typology of the interventions. Other criteria include the easing of the participation independently from the genre, a better ratio of costs to own's resources, the use of advanced communication forms that ease the active participation of the inhabitants of a territory in the various phases of the process and the numerical support far beyond the quorum required by the law.

(16.2), that poses some other criteria for the local authorities. Such criteria concerns the nature of the process and its scope and aim at favoring the association among local authorities. An interesting criterion is a reference to "Agenda 21" and to a fair and environment respectful local development. Other criteria are about technical constraints.

The first thing to understand is the reason so apply these criteria to a request that aims at obtaining only some technical assistance.
The other main problem with these criteria is to understand how they are used in judging the admissibility of an application. Point $(16, 1)$ lists 7 criteria. We have to understand if they are applied in a sequence on a *yes/no* basis or if to each of them is assigned a weight and they are applied on a total *weight/threshold* basis or in some other way. The law is reticent about this point (that concerns also point $(16, 2)$).
In the *yes/no* case the criteria are evaluated one after the other (from the first to the last) for a given application and the application is admitted only if it scores *yes* to each criterion. Tough this may seem to assume a precise ordering in importance of the criteria this ordering is really non influent since the criteria are in an *and* condition and must be all verified for an application to be admitted.
In the *weight/threshold* case the criteria are evaluated as before. If a criterion is satisfied its corresponding weight is accumulated in total score. When the evaluation is over we have a final score that is compared with an ex-ante fixed threshold value. The application is admitted if its global score is at least equal to the threshold value otherwise it is rejected. In this case the main problem

is how to assign the weights to the criteria, how to fix the threshold value and who is in charge for doing this, maybe the Authority? Are these values (the weights and the threshold) publicly known or not?
Another problem concerns the very concept of priority since it assumes a set of contemporary requests among which to establish a priority ordering. Once this ordering has been established it is not clear both how many waiting requests will be accomplished within which time and what happens to the low priority (and temporarily rejected) requests. It is not clear if they must be represented maybe with modifications or if they are to be considered as lost forever or as standing in a waiting list for a period to be defined (and are dropped when it expires).

(17.1), that gives thirty days to accept a request and moreover gives the Authority the faculty to condition the acceptation to modifications of the project so that is better fulfills the admission criteria, to indicate further ways of carrying out the process also with the need to increase the number of adhesions, to require a coordination among similar project also by suggesting possible ways of coordination, to differentiate and combine the various typologies of support also depending on the pending requests.

(17.2), that states that the Authority must consider the opinion of the involved administrations and verifies their willingness to consider the outcomes of the participative processes or to motivate the partial or null acceptance.

(17.3), that defines the ways through which the financial support is distributed, the conditions that must be satisfied for this distribution to occur, the cases in which it can be suspended and the cases in which the Authority may ask for its return.

If a request satisfies the admission criteria (and the priority criteria) then it is admitted and the Authority cannon proceed otherwise. Or not? Point (17.1) gives the Authority the possibility to block and reject a request if the proponents are not able to get it fulfill more precisely the admission criteria. Another source of problems may be the requirement to present a higher quantity of adhesions. The aim of point (17.2) is not clear since an involved administration may well deserve to motivate the partial or null acceptance of the outcome of a participative process after it has occurred. From a strategic point of view this is even better since that outcome may well be in favor of that administration.
As to point (17.3) we remark how it concerns only financial support and may represent a heavy way of pressure over local authorities to which that support may be suspended (so to hamper the current participative process) until the regularization (according to which criteria and timings?) of the requirements and the defining elements of the priority criteria.

A.9 The timings of the law

The *LAP* establishes a lot of timings.
The strangest is introduced in Article 27 (duration of the law) where it is stated

that the LAP is abrogated on December 31 2012 but for the participative processes that are under way and that are regulated by the LAP to their completion. This article states that the LAP may be either confirmed or modified through a participative process to be held during the first three months of that year to evaluate

1. the efficacy,
2. the diffusion,
3. the performance

of the participative processes that have been promoted by the LAP.
All this is really strange and uncommon since it is based on the following hypotheses:

1. that a substantial set of participative processes will be held during the period of validity of the LAP;
2. that those processes are closed with satisfactory outcomes for their participants;
3. that these participants will be involved in the participative evaluative phase of the LAP.

What will happen if such hypotheses will be falsified ex-post? In which direction the LAP could be possibly modified?
Other timings are explicitly stated by the LAP:

(et1) in Article 4 point 3 where it is stated the deadline for the public selection of the Authority;

(et2) in Article 8 point 3 that gives thirty days to the Authority to deliberate about an application;

(et3) in Article 9 point 1.(a) that establishes in six months the duration of a process with the possibility of no more than three months of deferment;

(et4) in Article 10 point 3 that establishes a bound of three months from the publication of the final report of a participatory process within which the proposing subject may make a public declaration of intents;

(et5) in Article 14 point 2 where the law fixes pairs of dates, the former the deadline for applications' presentation and the latter the start date of the associated projects;

(et6) in Article 17 point 1 that gives thirty days to the Authority to admit a participative process to the concession of the support.

As to point ($et5$), we already commented on it in section A.6. At this level we note how the only way to proceed if to fix an interval of some months before and some months after the public acquaintance of a potentially impacting project in which requests for the opening and support of a participative process can be presented to the Authority. In this way we would have no fixed bounds and full flexibility. The LAP does not specify any timing in the following cases where we think that at least an upper bound should be necessary:

(lt1) in Article 10 point 1 where there is no indication of a deadline for the delivery of the final report of a participative process from its manager to the Authority;

(lt2) in Article 10 point 2 where it is not clear how much time the Authority has to verify the carrying out of a participative process;

(lt3) in Article 17 point 3 where there is no indication of the frequency of presentation of the periodic reports about the carrying out of the participative process.

Last but not least we underline here an implicit timing and so the effective period of validity of the law.
The LAP is useless if the Authority has not been appointed and, six months after its promulgation, this has not yet occurred. So the LAP is not yet working. If this appointment occurs in September[17] we may imagine some months so to arrange for all the needed tools, seat and personnel to reach a steady state so that we can imagine the beginning of 2009 as the real starting point of the LAP. Of course the later the appointment the more delayed this starting point. Under these conditions the LAP has a validity of 4 years since the LAP itself states that it is abrogated on December 31 2012.
If we consider that, at least for the Public Debate (see Article 19) the LAP cannot be used during the six months that precede the breaking up of the "Consiglio Regionale" (as it occurs regularly in occasion of political elections) we have that the LAP is fully effective for at the most three years and a half. We think that this is a too short period to fully evaluate its validity and effectiveness.

A.10 The other main features

The features we simply list (with a few comments) in this descriptive section are those that aim at harmonizing the LAP with the existing corpus of laws that regulate connected and correlated issues.
The LAP deserves the articles from 19 to 25 to coordinate itself with other regional laws in two ways:

1. by defining some coordinating ways (articles 19 and 21),

[17] The appointment really occurred on September 17 so the remaining pa is to be regarded as an abstract set of considerations.

2. by introducing some modifications to pre existing regional laws, Article 20 and articles form 22 to 25.

The *LAP* contains also some final norms in the articles from 26 to 30 that orderly aim at:

(fn1) defining the expiration date of the law itself and the ways for its evaluation;

(fn2) introducing a hierarchy between a consultative referendum on a "big intervention" and a Public Debate on the same issue since the former makes the latter inadmissible;

(fn3) introducing a link between the administrative elections and the possibility to carry out a Public Debate;

(fn4) introducing a transitory norm for years 2008 and 2009;

(fn5) introducing a financial norm for the same years.

As to $(fn2)$ it is not clear how a consultive referendum can interfere with an already started Public Debate on the same issue since the concept of inadmissibility of the latter seems to imply a succession where the referendum precedes the request for a Public Debate that is rejected according to this article. The converse (and so an admitted Public Debate and a consultive referendum on the same issue that makes the former inadmissible) is really strange since it would be more fair not to have a hierarchy (with the referendum weighing more than the Public Debate) but instead having a peer-to-peer relation. In this case a consultive referendum would make a Public Debate inadmissible and a Public Debate would make a consultive referendum inadmissible if both are on the same issue and depending on who comes first.
It could be interesting moreover to see how the following scenario could be dealt with: a request for Public Debate and a request for a consultative referendum on the same issue that reach together the admissibility phase and are both declared admissible and are supported by the same number of signatures.
There is the possibility of a "deadlock" where a Public Debate is declared inadmissible since there is a running collection of signatures for a consultative referendum and the collection is hindered by the diffuse knowledge of the preparation of a Public Debate on the same issue with the result that none of them is actually carried out.
Lastly as to $(fn4)$ we note how this transitory norm effectively influences only the year 2009 and allows the organization of a Public Debate also about projects of "big interventions" between the preliminary project phase and the definitive project phase though in this case the opening of a Public Debate has no suspensive effect (and may result useless). We try to argument this uselessness. A Public Debate may last up to nine months then there is the drawing up of the final report, the evaluation from the Authority and then, but for error and omissions, the three months for the proposing subject to make a declaration of intents. During this period nothing prevents the proposing subject to go on

with the project and possibly with the realization of the projected intervention so to make the outcome of the Public Debate practically useless, a waste of time and money.

A.11 Some closing proposals

Some time ago I met a person that attended with me the *electronic Town Meeting* in Carrara. At that time we sat at the same table and participated in the same local discussion group. When we met again we were attending a workshop organized by Agostino Fragai and the "Regione Toscana" about *LAP*. After we spoke a little I told him that I did like the *LAP*. He asked me if I thought I could have written a better law. I answered him negatively and the same remains true also at the present. I was not sure I could be able to write a better law. Somebody says that a [bad] law is better than nothing.
I am not sure this is right.
At that time I told to my fellow that I felt like a person at the restaurant that may not be able to cook but want to be free to say that he does not like the cooking.
At the present something has changed since I started to study the basics of cooking so I think I am in the position to go beyond the criticisms I have scattered in the sections of this Appendix and make some proposals.
Some proposals does not make a whole law.
The basic proposal is to avoid the stamping on the law of an expiration date. A law is not a yogurt and can be abrogated in any moment. The stamping of an expiration date means that neither its proponents really believe in it.
Other proposals in open order include:

(p1) it is necessary to characterize more precisely what is meant by a "big intervention" so that the admission or rejection of a request may be made on clearer and more objective bases;

(p2) it is necessary to define and characterize the appealing authorities in all cases a request may be rejected or a decision taken;

(p3) there should be a link between the territory influenced by a "big intervention" and the required percentage of requiring residents (the quorum) to activate a participative process;

(p4) there should be the possibility to admit, upon motivated request, the residents of other areas (with a proportionally evaluated quorum) that claim to be influenced by the "big intervention" to the participation process (possibly without any way to deeply modify it but only with the possibility to asses it);

(p5) it should be possible to present a request of participative process at any stage of a "big intervention" since the major flaws and negative effects of any "big intervention" turn out only at stages later than any project phase and so at the implementation phase;

(p6) it is necessary to uniform the regulations of support between the local level and "big intervention" level reducing the possibilities for school institutes and increasing those of the residents and the other citizens effectively living or working on a territory;

(p7) there should be a link between the period of admissibility of a request for the activation of a participatory process with only the time when a "big intervention" or its perceived bad effects are publicly known;

(p8) it is necessary to define the timings $(lt1)$, $(lt2)$ and $(lt3)$;

(p9) it is necessary to define what happens if the proposing subject presents an alternative project or the same project with a to be defined minimum level of needed motivations;

(p10) it is necessary to state who can judge upon the degree of being alternative of a project and what happens if this claimed feature is declared to be false;

(p11) it is necessary to provide for a suspension of any administrative deed and concession concerning a contested or disputed "big intervention" until a solution to the concerns of the applicants to a participative process has not been devised;

(p12) it is better not to define a priori any method (such as the Public Debate) but let the applicants to propose a set of believed suitable methods among which the Authority may suggest the most preferred one depending also on the availability of funds and time;

(p13) it should be better not to define a too strict time bound for the completion of a participative process and to allow the needed extensions to be negotiated, either with the Authority or with the manager of the participative process, during the process itself and not ex-ante as a necessary condition for the admissibility of an application.

As a general comment it is necessary to introduce a **closed loop way of thinking** so to be able to understand what happens if a cause may self influence itself through a closed chain of causes and effects.

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